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ABSTRACT

The Ontario Council on Graduate Studies' appraisal of graduate planning in Ontario universities reveals that the graduate enterprise is not excessively large and is not growing in an uncontrolled manner and that doctoral graduates are finding jobs in their fields. The easing of the growth of graduate enrollments, the need to react positively to the current economic realities, and the opportunity to adjust enrollments without financial penalty combine to provide an opportunity for a careful evaluation of future directions and for a reexamination of the goals and operation of the planning and appraisal process. The report summarizes the current situation and makes detailed recommendations for planning for graduate studies and research as well as future mechanisms and their effect on planning. (JMF)

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GRADUATE PLANNING IN ONTARIO UNIVERSITIES

(A BRIEF TO BE PRESENTED TO OCUA IN JUNE 1976)

PREPARED BY

ONTARIO COUNCIL ON GRADUATE STUDIES

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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SUMMARY AND RECOMMENDATIONS

The documentation of the report is rather extensive and a summary, with recommendations, is provided at the end of the major sections. This material has also been assembled and placed here at the front of the report to provide the reader with a convenient listing of the general findings of the report. The section numbers have been included to permit handy reference to the relevant portions of the main report.

2.4 Summary and a Recommendation

In summary, it is noted that the graduate enterprise in the province is not excessively large and is not growing in an uncontrolled manner. Recent growth has occurred predominantly in a very small number of disciplines in which the demand for growth has come from outside the university and has, in some instances, been fostered by the hiring and promotion policies and practices of the business community and the school system.

Doctoral graduates are finding jobs appropriate to their education. The number still without employment at the time their theses are submitted is small and the proportion taking up careers outside the university system is quite significant, particularly in some of the divisions. The future planning of doctoral study must recognize that its purpose today goes beyond the need to maintain an adequate supply of university faculty. The evolution of society, business and government is creating an ever-growing demand for doctoral graduates.

The landed immigrant component of the graduate enrolment, while significant, is largely the result of the country's immigration policies over the last decade or two and reflects the cosmopolitan nature of Ontario's major population centres. Should it be otherwise?

The student visa component of the graduate enrolment is not excessive and has decreased slightly over the past five to six years. The bulk of the graduates in this group are returning to their home countries to take up employment of an entirely appropriate kind. This segment of the graduate enterprise is a reflection of the international character of scholarship in general and of Canada's commitment to the international community.

The current easing of the growth of graduate enrolments, the need to react positively to the current economic realities and the opportunity to adjust enrolments without financial penalty combine to provide an opportunity for a careful evaluation of future directions and for a re-examination of the goals and operation of the planning/appraisal process.

It is therefore recommended that:

the existing enterprise be accepted as a suitable base from which to develop a new approach to graduate planning in which emphasis will be given to:

i) the improvement of quality of the graduate activity through strengthening the appraisals process and extending it to programmes hitherto exempted,

ii) the need for individual universities to establish firm institutional priorities with regard to the strengthening or closing of programmes that are found to be inadequate,

iii) an earlier role for ACAP in the planning of new programmes so that system factors can be considered before institutional resources are set in place,

iv) the need for reassessment in those disciplines in which significant changes have occurred since the assessment or in those instances where the original assessment is believed to have been less than adequate.

3.4 Summary and a Recommendation

The planning/appraisal process should remain in place but should be modified along the lines suggested in the Report of the COU Special Committee on the Financial Implications of Graduate Planning. The planning function should be based on a clearly developed statement of goals for the graduate activity which recognizes:

i) the essential role of research and scholarly work in the university and its relationship to graduate studies,

ii) the need for all faculty to have the opportunity to pursue research and/or scholarly work and their responsibility to do so,

iii) the relationship between resources, particularly human resources, and the quality of graduate studies,

iv) the need to maintain the essential resources for doctoral studies in those disciplines which are well developed and to improve resources for those underdeveloped disciplines where advances are essential to the general good,

v) the interaction between system goals which concern the overall development of graduate study in the province and institutional goals which must recognize the place of graduate study in the context of the overall institutional development.

The planning objectives must recognize the overall enrolment projections for the next two decades and the reality of the severe economic restraint now facing society. The need to increase doctoral enrolments about 1985 indicates that it will be less costly to maintain existing resources than to

allow them to decline and then attempt to rebuild them. Planning with respect to what exists in the well developed disciplines should focus on the improvement of quality with steady or even slightly declining enrolments. Some growth should be anticipated in some of the newer, underdeveloped disciplines and planning in these areas should be directed toward the most rational development of resources from the system point of view. The extent to which role differentiation has occurred among the universities should be studied with a view to possible improvements through encouraging further moves in this direction.

A new approach to the planning appraisal function is suggested. It emphasizes planning based on a preliminary, rigorous appraisal of quality of all existing programmes. Attention will be focussed on the initiation of new programmes to ensure a rational development from the system point of view. The closing of existing, high quality programmes will be left to the individual institutions with collective advice in the form of annual reviews of projected enrolments etc. by the discipline groups.

It is recommended that:

> the first stage of the development of a new planning/appraisal process be directed toward the preparation of a goal statement for graduate studies based on the points outlined above. The statement should be as clearly definitive as possible and should indicate priorities where conflicting directions arise.

4.5 Summary and a Recommendation

The annual report to OCUA will serve, for the duration of the freeze, to keep its members informed about the future intentions of the universities and about their actions in response to the recommendations of the planning assessments.

The implementation section should continue much as it has in previous reports but the section on future plans should be modified along the lines indicated in the revised format for the three-year plans shown in Appendix III. There should also be a section to provide up-to-date information on modifications to existing planning assessments and a schedule of new assessments and reassessments to be undertaken.

It is recommended that:

> the revised format for three-year plans shown in Appendix III be adopted in conjunction with the general approach to the annual report outlined above.

5.3 Summary and a Recommendation

A number of possible funding mechanisms have been examined in terms of their impact on planning and the future direction of graduate study in the province. The list has not exhausted all of the possibilities nor have all of the ramifications of any one of them been explored. Some of the advantages and disadvantages of each have been considered but a firm recommendation in support of any particular approach would require a detailed analysis of its impact on the achievement of a particular set of goals and objectives.

It is recommended that:

> high priority be given by OCGS, COU and OCUA to the development of a clear statement of goals and objectives for graduate study in the system following which attention can be directed to the design of the most suitable planning/appraisal process and an appropriate funding mechanism.

To provide a period of reasonable stability for the revision process and to provide a better data base on which to assess the results of of the desenitization of funding to enrolment, it is recommended that the new funding procedure adopted in Advisory Memorandum 75-V be extended for an additional year.

1. INTRODUCTION

1.1 Historical Background

The early development of the universities of Ontario, their growth through the early 1960's, the emergence of professional studies and of graduate studies and research, and their importance to society are all discussed in the opening chapters of the Spinks Report*. Succeeding chapters review the organization and funding of graduate studies and research and provide a careful look at the general health of the graduate enterprise including some problems, both existing and potential. The need for some form of system-wide coordination and cooperation in the areas of quality standards, of duplication of activities and resources and of forward planning is considered at length.

Although the specific recommendations of the report urging the creation of an Ontario Universities Research Council and a provincial University of Ontario were not acted on, the force of the supporting arguments and supplementary recommendations was recognized and there has emerged a cooperative, system-wide approach to the appraisal of graduate programme quality and the preparation of discipline planning assessments. Both have served until recently, as key factors in the funding of graduate studies. Both are performed under the aegis of committees of the Ontario Council on Graduate Studies (OCGS).

1.2 The Appraisals Process

The history and early work of the Appraisals Committee is reviewed in The First Three Years of Appraisal of Graduate Programmes published by OCGS in 1970. The subsequent period from September 1, 1969 to August 31, 1975 is summarized in a report which is appended (Appendix G) to the COU review New Structure, New Environment covering the period 1972-73 to 1974-75. By the end of January, 1976, a total of 197 programmes had been appraised, 58 of them at the doctoral level. A further 17 appraisals were in progress. Although the number of unfavourable appraisals has been consistently small, the impact of the process on the overall quality of graduate offerings has been salutary. Numerous proposals for new programmes have been withdrawn either on the basis of reports of the external consultants or as a result of discussions between the universities and the Appraisals Committee. The process has also served to strengthen the system through more precise definition and delineation of the fields covered in the programmes offered and of specific features that need attention. A less obvious but equally beneficial result is the effect of the mere existence of the process on the screening procedures used by the individual universities. On the whole, there has been widespread acceptance of the appraisals operation and a general recognition of its value to the system.

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* Report of the Commission to Study the Development of Graduate Programmes in Ontario Universities, Toronto, November 1966. See also The Universities of Ontario, R. S. Harris, Canadian Geographical Journal, January, 1965.

1.3 The ACAP Operation

The most recent review of graduate planning in Ontario is presented in Section 2 of New Structure, New Environment, referred to on page 1. The background of the exercise and the creation, procedures and accomplishments of the Advisory Committee on Academic Planning (ACAP) are outlined. The evolution of the planning principles adopted by COU is discussed and comment is made on implementation of planning recommendations and the changing context within which directions for the future must be defined.

At the present time, 22 planning assessments have been completed, another is in the final stage of completion and the preparation of another is well advanced. In all, there will be over 300 recommendations in the 24 reports. Two reports on the implementation of recommendations have been completed and the task of monitoring future developments is a continuing one.

In comparison with the general reaction to the appraisals process, acceptance of the planning operation has been less uniform. It has been helpful in providing guidance to the emerging universities in their transition into graduate studies and in highlighting, for the system as a whole, a number of areas in need of development. The results in some fields have been the source of continuing controversy and there have been growing expressions of concern about the amount of money and faculty time devoted to the process. These and other facets of the exercise will be examined in more detail in later sections.

2. THE GROWTH AND SHAPE OF THE GRADUATE ENTERPRISE

Before considering in detail the future planning of graduate studies in the Ontario universities, it is worthwhile to examine the existing enterprise in terms of its growth, size and shape in relation to needs, demands and expectations. It should be noted that the data from Statistics Canada documents, include, in addition to degree candidates and qualifying students, significant numbers of students enrolled in graduate diploma and certificate programmes. The numbers are correspondingly higher than those extracted from the Statistical Reports of the Canadian Association of Graduate Schools (CAGS) and the Statistical Summary of the Ministry of Colleges and Universities (MCU) which exclude diploma and certificate students. Nevertheless, all of the data serve their purpose in the following analysis.

2.1 Growth and Overall Size

The growth of the universities during the two decades following the close of the second world war has been the focus of numerous studies but the one having the greatest impact on graduate studies in the Ontario universities was the study commissioned by the Committee on University Affairs and the Committee of Presidents of Provincially Assisted Universities and chaired by Dr. J. W. T. Spinks. The report, published in November of 1966 comments on the growth of graduate studies as follows:

> "...Between 1900 and 1939 the importance of research, and with it the graduate degree, was increasingly recognized, and today they are accepted without question. The rate of growth in enrolment has been startling, especially in the last decade. From 190 students in 1920 the total grew to 1,452 in 1955. Ten years later, in 1965, there were no less than 6,874 graduate students, constituting 13 percent of the total provincial university enrolment. Accompanying this recent growth in numbers there has been a striking increase in the depth and sophistication of programmes. How the several universities have contributed to the growth since 1939 is set out in Table II. We also present projections of the enrolment to 1975-76 in Tables III, IV and V. We believe these, if anything, to be conservative."

The projections referred to predict an overall growth from 6,874 in 1965-66 to between 19,661 and 24,204 in 1975-76 with the percentage of total enrolment rising from 12.44 to between 12.89 and 15.87. In a later comment, following a consideration of the state of maturity of the Ontario universities and the pressing need for expansion of doctoral programmes, it was noted that:

> "...On the other hand the universities cannot devote all their resources to higher degree training. In mature institutions elsewhere graduate enrolment is rarely higher than 30 percent and is usually nearer 20 percent. Institutions with doctoral programmes should certainly work towards these figures but should exceed 30 percent only in rare cases where world stature has been attained and where funds are available."

Even a cursory examination of the data in Table I reveals that the rapid rise in full-time graduate enrolments during the 1960's levelled off quite abruptly about 1971 and that the current projections for 1975-76 fall far short of those tabled in the report of the Spinks Commission. Also, the full-time graduate enrolment as a percentage of the full-time total enrolment is now projected as declining from about 1970 to reach 11 percent by 1975-76, just over half the value of 20 percent suggested by the commission as appropriate for mature universities.

The figures reported in the MCU 1972-73 to 1973-74 Statistical Summary are probably more in line with the approach used by the Spinks Commission and the following numbers extracted from Table 10B are instructive. The selection of McMaster, Queen's, Toronto and Western as a sub-set is based on the development status used in the Spinks report.

TABLE I

ENROLMENTS IN ONTARIO UNIVERSITIES

1960-61 TO 1975-76

Year	Full-time Total	Full-time Graduate	Full-time %	Part-time Total	Part-time Graduate	Part-time %	Ref.
60-61	32,175	2,599	8.1	-	-	-	a
61-62	35,976	2,903	8.1	-	-	-	a
62-63	39,386	3,328	8.5	13,732	1,828	13.3	a
63-64	44,367	4,201	9.5	17,575	1,812	10.3	a
64-65	50,987	5,424	10.6	20,284	1,879	9.3	a
65-66	59,274	6,859	11.5	22,383	2,066	9.2	a
66-67	68,930	7,727	11.2	27,860	3,376	12.1	a
67-68	79,433	9,782	12.3	31,029	4,047	13.0	a
68-69	92,932	11,498	12.4	37,796	4,925	13.0	a
69-70	108,825	13,458	12.4	45,669	7,016	15.4	a
70-71	121,115	14,811	12.2	57,125	6,812	11.9	a
71-72	134,419	16,380	12.2	57,452	8,204	14.3	a
72-73	135,024	16,324	12.1	61,835	9,208	14.9	a; b
73-74	141,473	16,462	11.6	65,955	10,072	15.3	b
74-75	146,200	16,600	11.4	69,700	10,900	15.6	b
75-76	149,770	16,700	11.1	71,900	11,600	16.1	b

a. Education in Canada: A Statistical Review for 1971-72 and 1972-73, Table 42.

b. Advance Statistics of Education: 1974-75, Table 8.

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Full-time Enrolment at Ontario Universities, 1973-74

	Total	Graduate	Percent
All Universities	140,950	13,832	9.8
Developed Group (McMaster, Queen's Toronto, Western)	63,507	7,979	12.5

Even the four selected universities are still well below the 20 percent level and thought should be given to this feature of the system in future planning.

The CAGS data differ from those of Statistics Canada and MCU but are much closer to the latter. They have the advantage of providing a seven-year span of actual enrolments by division (see Tables II and III) and by discipline. The abbreviated titles for the divisions are introduced only as a convenience and do not indicate exclusion of other disciplines. They will be used throughout the brief.

A glance at the Ontario totals in Table III will show that the rise in full-time graduate enrolments through the 1960's tapered off sharply following 1969-70 with only a 5 percent increase over the next six years. On the other hand, part-time enrolments continued to rise and over the same six-year period, increased by 65 percent. The comparable figures for Canada are 1 and 84 percent.

Comparisons of Canadian and U.S. enrolments and of Ontario and Illinois enrolments are made in Appendix A of the Report of the COU Special Committee on the Financial Implications of Graduate Planning (Appendix I). The high percentage of graduate enrolment in Illinois can be explained at least in part by the large net efflux of undergraduate students from the state. Nevertheless, on a per capita basis, Illinois enrols 2.5 graduate students per 1000 population compared to 2.2 in Ontario.

In summary, the growth of graduate studies in Ontario has fallen far short of the projections presented in the Spinks report.

As to the absolute size of the operation and the ability of society to absorb the graduates leaving the system, there does not seem to be any clear-cut approach to an answer. Manpower need projections are notoriously unreliable and the long lag-time between the clear demonstration of a need and the education of advanced graduates to fill it, tends to produce a cyclic rhythm in which supply and demand are rarely in phase. A further complication is the remarkable ability of master's and doctoral graduates in many areas, to take up and function effectively in careers in other areas, sometimes only remotely connected with their fields of specialization.

TABLE II

COMPOSITION OF DIVISIONS

Division A: Humanities and Related Disciplines

Asian and Slavic Studies
Classics and Latin
Comparative Literature
English Language and Literature
Fine Arts (Art, Music, Drama)
French Language and Literature
History
Linguistics
Medieval Studies
Modern Languages and Literature
Philosophy
Theology and Religion

Division B: Social Sciences and Related Disciplines

Anthropology
Archaeology
Architecture
Business
Canadian Studies
Economics
Education
Geography/Climatology
Industrial Vocational Education
Journalism/Communications Studies
Law
Library Science
Physical Education
Political Science
Psychology
Public and Other Administration
Social Welfare
Sociology
Urban, etc., Planning

Division C: Natural Sciences and Applied Sciences

Aerospace Sciences
Astronomy
Chemical Engineering
Chemistry
Civil Engineering
Computer Science
Electrical Engineering
Engineering Design
Environmental Studies
Geology
Industrial Engineering
Mathematics
Mechanical Engineering
Metal and Materials Science
Mining Engineering
Physics, including Meteorology

Division D: Life Sciences

Agriculture
Anatomy
Animal Science
Biochemistry
Biology
Biomedical Engineering
Biophysics
Botany
Cancer Research
Clinical Medical Science
Dentistry
Entomology
Epidemiology
Food Science and Nutrition
Forestry
Genetics
Hospital Administration
Marine Sciences
Medical Sciences
Medicine
Microbiology and Immunology
Neurosciences
Nursing
Pathology
Pharmacy/Pharmacology
Physiology
Plant Science
Psychiatry
Public Health Hygiene
Soil Science
Surgery
Veterinary Medicine
Zoology

TABLE III

GRADUATE ENROLMENTS - ONTARIO AND CANADA 1968-69 TO 1974-75

	1968-69		1969-70		1970-71		1971-72		1972-73		1973-74		1975-76	
	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT
Ontario - Master's														
Humanities	1,358	623	1,703	758	1,539	752	1,397	766	1,235	842	1,245	869	1,319	554
Social Sciences	2,686	2,533	3,535	3,256	3,682	3,380	3,847	3,912	3,837	4,279	3,914	4,618	4,408	4,875
Natural Sciences	1,973	425	2,025	485	2,000	494	1,819	642	1,575	839	1,766	1,054	1,874	1,177
Life Sciences	710	60	910	99	861	150	769	159	737	214	845	285	989	273
TOTAL	6,727	3,541	8,173	4,598	8,082	4,776	7,832	5,479	7,384	6,174	7,770	6,826	8,590	6,879
Ontario - Doctoral														
Humanities	863	264	1,047	397	1,194	431	1,283	507	1,276	589	1,284	579	1,321	880
Social Sciences	859	198	1,084	328	1,276	408	1,393	555	1,437	742	1,552	769	1,619	879
Natural Sciences	1,649	157	1,842	162	1,904	223	1,805	260	1,674	278	1,471	300	1,315	375
Life Sciences	495	35	654	60	719	78	656	81	559	118	566	109	541	108
TOTAL	3,866	654	4,627	947	5,093	1,140	5,137	1,403	4,946	1,727	4,873	1,757	4,832	2,242
Ontario - Total														
Humanities	2,221	887	2,750	1,155	2,733	1,183	2,680	1,273	2,511	1,431	2,529	1,448	2,640	1,434
Social Sciences	3,545	2,731	4,619	3,584	4,958	3,788	5,240	4,467	5,274	5,021	5,466	5,387	6,027	5,754
Natural Sciences	3,622	582	3,867	647	3,904	717	3,624	902	3,249	1,117	3,237	1,354	3,225	1,552
Life Sciences	1,205	95	1,564	159	1,580	228	1,425	240	1,296	332	1,411	394	1,503	381
TOTAL	10,593	4,295	12,800	5,545	13,175	5,916	12,969	6,882	12,330	7,901	12,643	8,583	13,422	9,121
Canada - Total														
Humanities	4,647	2,671	5,555	3,095	5,716	3,308	5,343	3,724	5,156	3,994	5,266	4,079	5,235	4,214
Social Sciences	7,453	5,111	9,929	6,679	10,726	7,821	11,255	9,317	11,597	10,714	12,092	12,169	12,760	13,328
Natural Sciences	7,638	1,496	7,883	1,665	7,905	1,842	7,391	2,132	6,616	2,487	6,477	2,975	6,140	3,477
Life Sciences	3,495	525	4,599	736	4,655	873	4,078	1,029	3,772	1,164	3,735	1,237	4,054	1,355
TOTAL	23,233	9,803	27,966	12,175	29,002	13,844	28,067	16,202	27,141	18,359	27,570	20,460	28,189	22,374

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A study begun in 1969 by the Ontario Council on Graduate Studies of the first employment of Ontario PhD graduates was later extended to include the other provinces and in 1974-75 was sponsored by the Canadian Association of Graduate Schools. Tables 1.1 to 1.10 from the most recent report (1974-75) are reproduced in Appendix II. A consideration of the data in Tables 1.1 and 1.6 provides an interesting view of the overall extent of doctoral studies in the province. The following comments are pertinent.

1. The occupational categories shown in the tables are quite reasonable for PhD graduates. The "other" category has, since 1972-73, included high school teaching which is appropriate for PhD holders, particularly in some fields.

2. The unemployment level of the graduating group since 1971-72 has varied between 3 and 4 percent for Canada and between 3 and 5 percent for Ontario.

3. The number of the graduating group leaving the country from both jurisdictions dropped in 1974-75 to about 21 percent from 26 to 27 percent for the three preceding years.

4. Almost one third of those leaving the country did so to take up research fellowships, the fraction being slightly smaller for Ontario than for Canada.

5. It is reasonable to suppose that a significant proportion of those leaving to take up research fellowships will return to Canada on completion of their studies.

Additionally, it seems reasonable to assume that,

1. since the information is collected in most instances at the time the thesis is handed in, many graduates listed as unemployed probably have suitable employment by the time the report is published and the effective level of unemployment of graduating PhDs may be significantly lower than the 3 to 5 percent indicated, and

2. extending the same argument to the total PhD population, the effective overall level of unemployment is probably no higher than would be expected under conditions normally considered to be acceptable.

It is obvious that the doctoral programmes in the province are not producing large numbers of unemployable graduates.

2.2 The Changing Profile

The recent pattern of growth of graduate studies in Ontario can be gleaned from the data summarized in Table III and displayed in Figures I and II. Full-time and part-time enrolments are plotted by division and in total for the master's level (Figure I) and the doctoral level (Figure II). The actual increases for the seven-year period (1968-69 to 1974-75) are listed in Table IV which also shows each divisional increase as a percentage of the level total (TL) and of the overall total (T). Some comments are in order.

1. About two thirds of the increase has occurred at the master's level in both full-time and part-time areas.

2. Almost two thirds of the increase has occurred in part-time studies at both the master's and doctoral levels.

3. The largest increases in all categories have occurred in the social sciences where 87.7 percent of the total full-time and 62.6 percent of the total part-time increases occurred. All other increases were less than 10 percent except for the part-time master's enrolment in the natural sciences (15.6 percent) and both full-time and part-time doctoral enrolments in the humanities (16.2 percent and 12.8 percent respectively).

A further break-down of the social sciences into the individual disciplines is presented in Table V which shows the increases in each category (full-time and part-time, master's and doctoral) as a percentage of the category total. Again, comments are in order.

1. Sixty-one percent of the increase in full-time master's enrolments and thirty-four percent of the increase in full-time doctoral enrolments have occurred in five disciplines: business, education, library science, physical education and social welfare.

2. Seventy-three percent of the increase in part-time master's enrolments and forty-two percent of the increase in part-time doctoral enrolments have occurred in two disciplines: business and education.

It is evident that a large portion of the growth in Ontario's graduate enterprise between 1968-69 and 1974-75 has occurred in a relatively small number of disciplines each of which has some particular relationship to the development of our society and its needs as reflected in the demands placed upon the system by external actions. For example:

1. Actions by the Ministry of Education and the school boards of the province in the matter of teacher qualification placed a large demand on the system and the resulting growth in this area is not surprising.

2. The increasing complexity of modern business created a need for a higher level of professionalism in this area and the success of master's and doctoral graduates in the field produced a growing demand in response to which the universities were encouraged to respond. That they did so is evident in the enrolment trend.

FIGURE I

ENROLMENTS IN MASTER'S PROGRAMMES

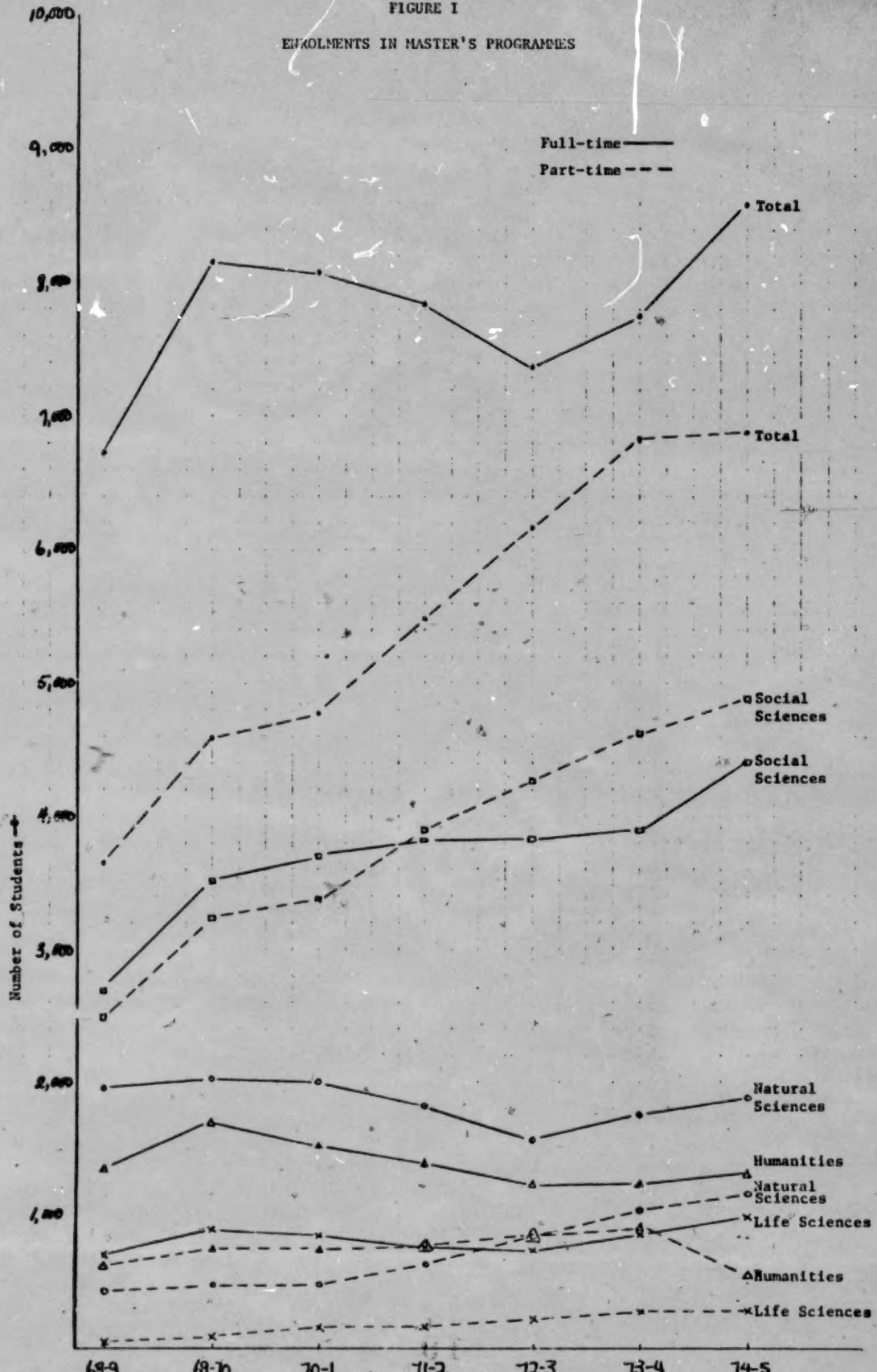

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FIGURE II

ENROLMENTS IN DOCTORAL PROGRAMMES

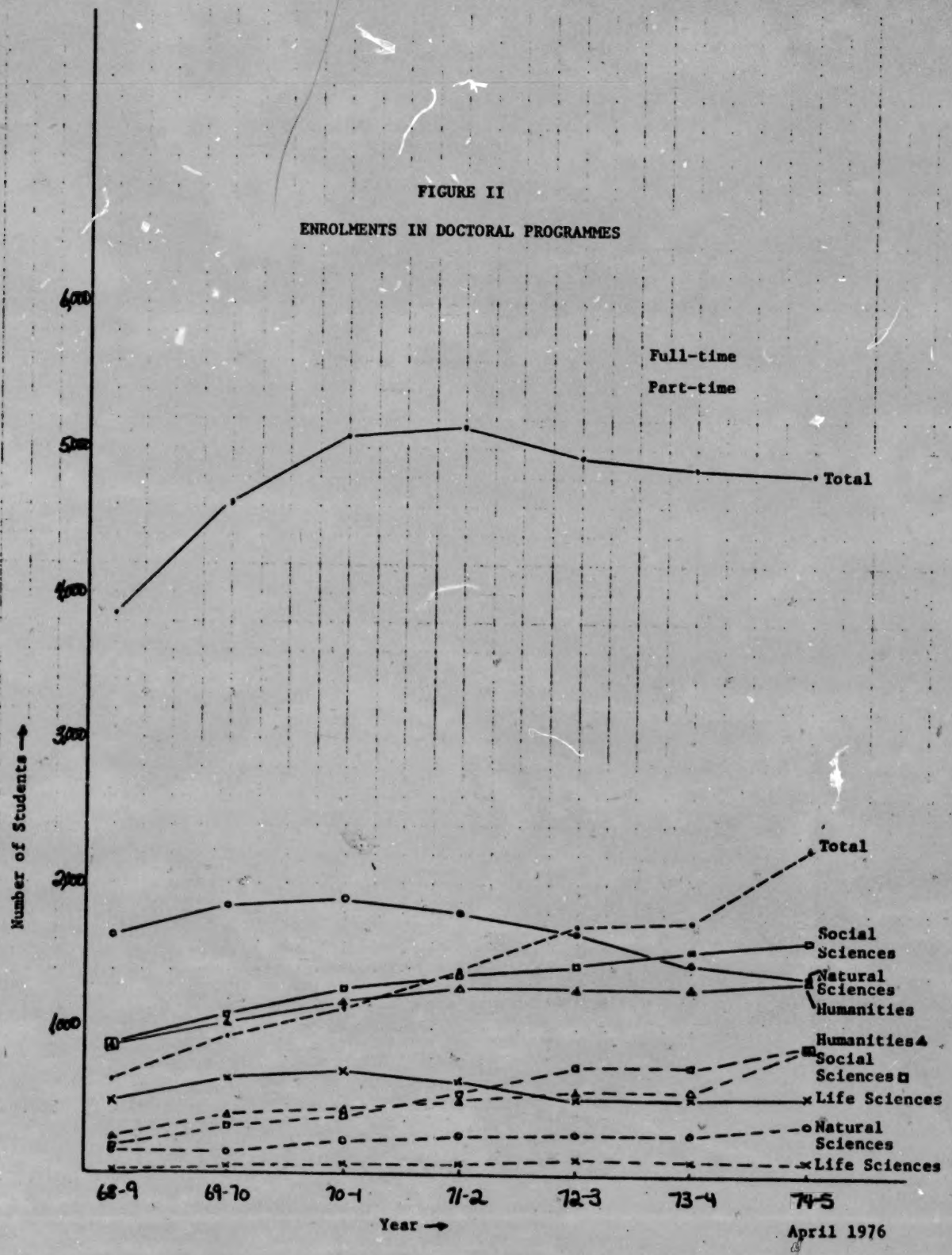

TABLE IV

GRADUATE ENROLMENT INCREASES

(1968-69 TO 1974-75)

Level	Division	Full-time Increase	Full-time % (TL)	Full-time % (T)	Part-time Increase	Part-time % (TL)	Part-time % (T)
Master's	Humanities	-39	-2.1	-1.4	-69	-2.1	-1.4
	Social Sciences	1722	92.4	60.8	2342	72.3	48.5
	Natural Sciences	-99	-5.3	-3.5	752	23.2	15.6
	Life Sciences	279	15.0	9.9	213	6.6	4.4
	TL	1863	100.0	65.8	3238	100.0	67.1
Doctoral	Humanities	458	47.4	16.2	616	38.8	12.8
	Social Sciences	760	78.6	26.9	681	42.9	14.1
	Natural Sciences	-298	-30.8	-10.5	218	13.7	4.5
	Life Sciences	46	4.8	1.6	73	4.6	1.5
	TL	966	100.0	34.2	1588	100.0	32.9
Master's and Doctoral	Humanities	419		14.8	547		11.4
	Social Sciences	2482		87.7	3023		62.6
	Natural Sciences	-397		-14.0	970		20.1
	Life Sciences	325		11.5	286		5.9
	T	2829		100.0	4826		100.0

Note the ratio of the part-time to full-time increases:

Master's	1.74
Doctoral	1.64
Total	1.71

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TABLE V

GRADUATE ENROLMENT INCREASE

DIVISION B (1968-69 TO 1974-75)

Discipline	FULL-TIME Master's Increase	FULL-TIME Master's %T	FULL-TIME Doctoral Increase	FULL-TIME Doctoral %T	PART-TIME Master's Increase	PART-TIME Master's %T	PART-TIME Doctoral Increase	PART-TIME Doctoral %T
Anthropology	36	2.1	26	3.4	20	0.8	18	2.6
Archeology	-	-	-	-	-	-	-	-
Architecture	15	0.9	-	-	6	0.2	-	-
Business	497	28.9	23	3.0	365	15.6	23	3.4
Canadian Studies*	25	1.4	-	-	19	0.8	-	-
Economics	106	6.1	78	10.3	43	1.8	28	4.1
Education	71	4.1	220	28.9	1335	57.0	265	38.9
Geography/Climatology	88	5.1	8	1.0	88	3.8	38	5.6
Industrial Vocational Education	-	-	-	-	-	-	-	-
Journalism/ Communications*	19	1.1	-	-	2	0.1	-	-
Law	39	2.3	8	1.0	116	4.9	6	0.9
Library Science	295	17.1	7	1.0	-3	-0.1	-	-
Physical Education	55	3.2	-	-	13	0.5	-	-
Political Science	-4	-0.2	123	16.2	41	1.7	73	10.7
Psychology	33	1.9	93	12.2	79	3.4	167	24.5
Public & Other Admin.	12	0.7	-	-	-3	-0.1	-	-
Social Welfare	134	7.8	8	1.0	18	0.8	14	2.0
Sociology	-6	-0.3	134	17.6	53	2.3	36	5.3
Urban Etc. Planning	78	4.5	2	0.3	48	2.0	5	0.7
Other	229	13.3	30	3.9	102	4.4	8	1.2
T O T A L	1722	100.0	760	100.0	2342	100.0	681	100.0

*Not Listed In 1968-69

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3. The socio-political problems facing our increasingly complex society provide striking examples of the need for a higher level of expertise and professionalism in the requisite disciplines. The universities have attempted to respond to the resulting demand for graduate programmes and the growth that has occurred in the social sciences is neither surprising nor undesirable.

The immediate post-graduate employment of PhDs is also of some interest here. Table VI, compiled from the data in Appendix II, provides some insight into what is happening to the doctoral graduates. It is noted that:

1. the Ontario and Canadian distributions are very similar,

2. the overall percentage entering university and college teaching over the period 1971-72 to 1974-75 remained remarkably constant at just over forty percent,

3. the drop in the numbers receiving research fellowships was balanced by the increase in the numbers entering industry, government, etc. with the percentage unemployed remaining roughly constant,

4. there are striking differences in the employment profiles of the different divisions; a general rise in the percentage entering industry, government, etc. was compensated in the humanities and social sciences by a drop in the percentage entering university and college teaching, in the natural sciences by a drop in those receiving research fellowships and in the life sciences by smaller drops in all other categories,

5. the subsequent distribution of graduates initially taking research fellowships is not known but would have some bearing, at least in the natural and life sciences divisions, on the ultimate distribution of doctoral graduates between teaching and other kinds of careers,

6. the increase in the unemployed group in the social sciences division is likely to be of a short-lived character because the evolution of society, business and government is creating an ever-growing demand for the doctoral graduates in these fields.

Finally, considerable interest has been expressed in the foreign component of the graduate enrolment and some clarification seems desirable. In the general context of Canada's social and political stance, landed immigrants must be treated in the same way as Canadian citizens in so far as their admission to universities is concerned. Accordingly, the following discussion will focus on the "student visa" components of graduate enrolments and PhD graduates. Data extracted from the 1974-75 CAGS Statistical Report are given in Table VII. It can be seen that the level of full-time visa students dropped from 16.0 percent in 1969-70 to 13.9 percent in 1970-71 and has remained below 14 percent since that time.

TABLE VI

IMMEDIATE POST-GRADUATE EMPLOYMENT OF ONTARIO AND CANADIAN PHD'S IN TOTAL AND BY DIVISION FOR 1974-75 AND (1971-72)

JURISDICTION/ CATEGORY	TOTAL	PERCENTAGE OF TOTAL			
		University and College Teaching	Industry, Private Research, Government, Other	Research Fellowship	Unemployed
Ontario					
Humanities	160 (123)	76 (87)	17 (8)	3 (2)	4 (3)
Social Sciences	206 (136)	52 (62)	35 (27)	6 (7)	7 (4)
Natural Sciences	355 (369)	26 (25)	43 (32)	28 (37)	3 (6)
Life Sciences	138 (165)	20 (22)	40 (31)	38 (42)	2 (4)
Total	859 (793)	41 (41)	36 (27)	19 (27)	4 (5)
Canada					
Humanities	260 (179)	79 (87)	15 (7)	3 (2)	3 (4)
Social Sciences	400 (262)	55 (67)	33 (26)	4 (4)	8 (3)
Natural Sciences	620 (669)	27 (27)	43 (31)	28 (37)	2 (4)
Life Sciences	330 (336)	23 (26)	36 (32)	39 (39)	2 (3)
Total	1610 (1446)	41 (42)	35 (28)	20 (27)	4 (4)

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TABLE VII

GRADUATE ENROLMENTS IN AND PhD GRADUATES FROM ONTARIO AND CANADIAN UNIVERSITIES

Category		Total		Canadian Citizen		Landed Immigrant		Student Visa		Student Visa FT & PT	
Ontario Enrolment											
1969-70	F.T. Number (%)	11,010	(100.0)	6,687	(60.7)	2,560	(23.3)	1,763	(16.0)	1,971	(12.9)
	P.T. Number (%)	4,247	(100.0)	3,486	(82.1)	553	(13.0)	208	(4.9)		
1970-71	F.T. Number (%)	13,172	(100.0)	8,138	(61.8)	3,202	(24.3)	1,832	(13.9)	2,095	(11.0)
	P.T. Number (%)	5,909	(100.0)	4,899	(82.9)	747	(12.6)	263	(4.5)		
1971-72	F.T. Number (%)	13,473	(100.0)	8,479	(62.9)	3,309	(24.6)	1,685	(12.5)	1,945	(9.4)
	P.T. Number (%)	7,144	(100.0)	5,810	(81.3)	1,047	(14.7)	287	(4.0)		
1972-73	F.T. Number (%)	12,787	(100.0)	8,150	(63.7)	3,204	(25.1)	1,433	(11.2)	1,630	(7.8)
	P.T. Number (%)	8,144	(100.0)	6,599	(81.0)	1,348	(16.6)	197	(2.4)		
1973-74	F.T. Number (%)	13,032	(100.0)	8,285	(63.6)	3,055	(23.4)	1,692	(13.0)	1,946	(8.8)
	P.T. Number (%)	9,032	(100.0)	7,274	(80.5)	1,504	(16.6)	254	(2.9)		
1974-75	F.T. Number (%)	13,861	(100.0)	8,965	(64.7)	2,983	(21.5)	1,913	(13.8)	2,172	(9.2)
	P.T. Number (%)	9,641	(100.0)	7,863	(81.6)	1,519	(15.7)	259	(2.7)		
Ontario PhD Graduates											
1974-75	Number (%)	910	(100.0)	525	(57.7)	324	(35.6)	61	(6.7)		
Canadian Enrolment											
1974-75	F.T. Number (%)	26,572	(100.0)	17,314	(65.1)	5,307	(20.0)	3,951	(14.9)	4,723	(9.8)
	P.T. Number (%)	21,423	(100.0)	17,666	(82.5)	2,985	(13.9)	772	(3.6)		
Canadian PhD Graduates											
1974-75	Number (%)	1,739	(100.0)	996	(57.3)	577	(33.2)	166	(9.5)		

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In addition, data from the CAGS Report on Employment of New PhD Graduates 1974-75 reveal that of the 61 Ontario visa PhD graduates in 1974-75:

43 (70.5%) returned to their home countries,
5 (8.2%) remained in Ontario,
1 (1.6%) remained elsewhere in Canada,
8 (13.1%) went elsewhere,
4 (6.6%) did not provide information.

Also, of the 43 who returned to their home countries:

27 took university positions,
2 took college positions,
1 took a high school position,
9 entered industry or government.

It appears that the large majority of the visa PhD graduates return to their home countries to take up employment of an entirely appropriate kind.

2.3 The Changing Environment

The past year has seen a number of significant changes in the environment within which the graduate enterprise operates. Most of these reflect the recommendations and decisions of OCUA and the Minister of Colleges and Universities but some, at least, are a result of the changing economic climate and new trends in the attitudes of students.

The decision in July, 1975 not to approve funding for a number of programmes in spite of the lifting of the embargoes and the later decision in December, 1975 to make the funding of graduate studies temporarily independent of enrolments both had immediate impact on certain aspects of the planning process. It is too early yet to predict with any confidence what the outcome of the freeze will be. Considering the complexity and timing of university procedures, it is doubtful whether the consequences will be evident even at the end of the two-year period. A major factor hindering positive action by the universities is the lack of a clear statement of the objectives of the freeze which would certainly have some bearing on the manner in which the universities react to the situation.

The possibility of a totally new approach to funding following the end of the freeze presents at once, an opportunity and a challenge. Both the funding mechanism and the planning operation have some impact on the directions taken by the universities and should accordingly be developed along lines best suited to promote the achievement of the goals and objectives of the graduate enterprise. We have been given an opportunity to develop a clear set of goals and objectives and to design a suitable approach to funding and planning in support of their achievement.

In the interim, the universities will have to approach their institutional budgeting in a manner that acknowledges the immediacy of the freeze and the current economic constraints while still recognizing the long term impact of decisions affecting their academic programmes. Enrolment based funding was not intended to serve as the basis for the internal distribution of funds but it did have some impact on decisions to support new programmes when it could be shown that the resulting increase in enrolment would provide the necessary income to support the venture. Under the new arrangement, new programmes will have to be considered in terms of their impact on other budgets. Priorities will have to be established to ensure the continuing overall health of the university. Some programmes may have to be curtailed but we must ensure that, in spite of declining enrolments and economic constraints, the resources, both physical and human, developed at significant cost over considerable periods of time, are maintained in a good state of health to meet the challenge of future growth. The situation will be further aggravated by the growing move towards unionization of teaching assistants and others whose salaries have a bearing on the preparation of university budgets.

2.4 Summary and a Recommendation

In summary, it is noted that the graduate enterprise in the province is not excessively large and is not growing in an uncontrolled manner. Recent growth has occurred predominantly in a very small number of disciplines in which the demand for growth has come from outside the university and has, in some instances, been fostered by the hiring and promotion policies and practices of the business community and the school system.

Doctoral graduates are finding jobs appropriate to their education. The number still without employment at the time their theses are submitted is small and the proportion taking up careers outside the university system is quite significant, particularly in some of the divisions. The future planning of doctoral study must recognize that its purpose today goes beyond the need to maintain an adequate supply of university faculty. The evolution of society, business and government is creating an ever-growing demand for doctoral graduates.

The landed immigrant component of the graduate enrolment, while significant, is largely the result of the country's immigration policies over the last decade or two and reflects the cosmopolitan nature of Ontario's major population centres. Should it be otherwise?

The student visa component of the graduate enrolment is not excessive and has decreased slightly over the past five to six years. The bulk of the graduates in this group are returning to their home countries to take up employment of an entirely appropriate kind. This segment of the graduate enterprise is a reflection of the international character of scholarship in general and of Canada's commitment to the international community.

The current easing of the growth of graduate enrolments, the need to react positively to the current economic realities and the opportunity to adjust enrolments without financial penalty combine to provide an opportunity for a careful evaluation of future directions and for a re-examination of the goals and operation of the planning/appraisal process.

It is therefore recommended that:

> the existing enterprise be accepted as a suitable base from which to develop a new approach to graduate planning in which emphasis will be given to:
>
> i) the improvement of quality of the graduate activity through strengthening the appraisals process and extending it to programmes hitherto exempted,
>
> ii) the need for individual universities to establish firm institutional priorities with regard to the strengthening or closing of programmes that are found to be inadequate,
>
> iii) an earlier role for ACAP in the planning of new programmes so that system factors can be considered before institutional resources are set in place,
>
> iv) the need for reassessment in those disciplines in which significant changes have occurred since the assessment or in those instances where the original assessment is believed to have been less than adequate.

3. PLANNING FOR GRADUATE STUDIES AND RESEARCH

It is clear that OCUA and the Minister intend that the concepts of appraisals, assessments, three-year plans and the reports to OCUA are to remain in place and that the practice is to be modified so that all relevant information will be presented to OCUA once each year in an annual package. It is equally clear that the approval of programmes for funding and the embargoes have temporarily ceased to have meaning. The development of a new approach to three-year plans was recommended and a new format will be proposed in the next section.

Also, according to the final report of the former Committee on University Affairs, the Minister accepted recommendation 73-64 which states:

> "that those universities which were requested to submit five-year plans for graduate development, after receipt of their initial five-year plan, revert to submitting a three-year plan on a rolling basis, consistent with all other universities."

Although the universities have not given up their authority to offer those programmes that they consider appropriate to their development, there has been a general understanding that each would abide by the collective decisions arrived at in the appraisals and planning processes. It is expected that the machinery of planning and appraisal will remain operative and that the universities will proceed according to the results of the process. It is also expected that the penalties referred to in Advisory Memorandum 75-V will not apply in situations where universities act with the collective support of the Council of Ontario Universities.

The universities will use the period of the freeze to develop in detail, a new approach to the planning/appraisals process. As a first step, the remainder of this report discusses new directions and procedures, reporting arrangements and the impact of funding mechanisms on planning and the achievement of objectives.

3.1 Goals

Any discussion of academic planning must be concerned at the outset with the goals which the resulting plans are intended to achieve. There are always constraints in relation to economic, human and physical resources and the objectives for development must be set in a priority context for planning purposes. In looking to the proper development of the universities over the next decade or so, care must be exercised to ensure that economies seen to be necessary in the light of continuing financial constraint are not achieved by simplistic numerical methods which ignore the long term aspects of university resource development.

Although this brief is concerned with graduate planning, the relationship between undergraduate demand, university staffing and doctoral study is obvious. Projections for the next two decades (presented to OCUA on May 8, 1976) show fluctuations in the undergraduate enrolment levels that cannot be ignored. The combined effects of the enrolment projections and faculty age profiles point to some reduction in the demand for new staff through the 1980's followed by a sharp up-turn beginning about 1990. It is important to note that if the increased demand beginning about 1990 is to be satisfied without bringing in staff from other jurisdictions, doctoral enrolments will have to be increased about 1985.

The importance of these considerations varies among the disciplines and divisions and it should be recognized throughout the following discussion that the approach adopted must be sufficiently flexible to cope with a wide range of specific problems. It should also be recognized that neither knowledge nor society are static and that important new developments will create new demands that must be balanced against the old existing demands in a period of tight constraint. The discussion will be focussed on a number of goal-oriented topics in relation to the development of graduate studies in the Ontario universities.

a. Quality and Resources

Few would argue that a major objective of the graduate enterprise in Ontario is to develop and maintain in the graduate activity across the system an acceptable standard of quality appropriate to the provinces level of development. Quality in graduate activity is closely linked with resources, particularly highly qualified, specialized staff, and it would be extremely difficult to develop and maintain standards in a period of severe economic constraint and falling enrolments. Nevertheless, it is vital that the system be maintained through the difficult period ahead in order to ensure the ability to cope with the demands that will accompany the upswing to come.

The prospects are somewhat different for the long established, well developed disciplines on the one hand and the newly emerging, underdeveloped disciplines on the other. The former, with well developed resources and adequate enrolments, should be encouraged to consolidate and strengthen the quality of what exists without growth and perhaps even with some shrinkage through to the mid 1980's. A continuation of the freeze would be helpful in these cases. About 1985, this group would have to adopt a policy of growth to meet the staffing demands of the 1990's. The underdeveloped disciplines on the other hand should be encouraged to resist the trend and to grow modestly in both resources and enrolments to achieve both the quality and size necessary to cope with the demands of the 1990's. In both cases, the means must be provided for the younger members of staff now in the system to achieve their potential by the mid 1980's.

b. Accessibility

The question of accessibility raises quite different issues in the graduate context than in the undergraduate. In the first place, graduate study has been traditionally more international in character; there is a major commitment to the international community of research and scholarship. Graduate schools all over the world expect to have, and indeed seek to have, a mixture of students from all parts of the world. Many Canadian students have received graduate degrees from universities in other countries.

Ontario, as a rich province with a well established university system, should provide somewhere within the system, the opportunity for graduate studies in most if not all fields of study. Some disciplines are so basic to university development that they should be offered at all or most of the campuses. Others, of more specialized character, will be expected to develop at only one or two centres. The balance of offerings across the system will need reviewing on a regular basis to ensure an adequate response to new developments as they occur. The system must be dynamic. Planning must ensure an adequate distribution of programmes within each discipline among the universities.

Different approaches can be taken to this problem but we are convinced that programme planning should be based primarily on society's needs as reflected in the ebb and flow of student demand in response to the market system. The demand for programmes from well qualified graduate students and the need for programmes based on the ability of the graduates to find suitable employment constitute the best guide for change in the system which will, over the long run, be responsive to changes in the market situation. Experience suggests that large scale attempts to anticipate these changes and to direct students into programmes on this basis are not successful. Nevertheless, the planning process should be sensitive to early indications of changing professional qualifications which will be reflected in later demands upon the system.

c. The University and the System

The Ontario university system is a collection of independent institutions of widely different ages, at various stages of development, and located in a diversity of community environments. They have only relatively recently banded together for collective action in the planning of graduate studies and it would be unrealistic to assume that they are all, at this instant, trying to achieve precisely the same goals. In the current climate of economic constraint, it is unlikely too, that the simple summation of the institutional goals arrived at independently over many years would provide a realistic set of goals for the system. The planning process must take into account not only the institutional objectives but also the responsibilities and goals established for the system and the economic constraints that control its overall development.

One aspect of this problem relates to a number of disciplines in which the historical development of the system has produced a greater number of graduate programmes than is necessary to meet the likely demand for graduate places in the next decade. The difficulties and dangers of adjusting the numbers by centrally imposed decisions to close certain programmes are discussed at length in Appendix I. The conclusion is clear that the potential of this approach for harm more than outweighs the possible gain. It is urged that system planning should concentrate on future development leaving to the individual institutions the task of adjusting their present offerings to the realities of enrolment trends and economic constraints.

d. Role Differentiation

The question of role differentiation for the universities of the province has been raised on several occasions and there appear to be, at least on superficial examination, a number of possible attractive features to such an approach. These would include the development of centres of excellence through the concentration of resources and expertise as well as possible economies achieved by the elimination of duplication. The idea is an attractive one and would perhaps bear fruit in a system being created *de novo*. In the Ontario context, with

a diversity of established programmes on all of the older campuses and no restrictions originally imposed on the newer group, the assignment of different roles to different institutions would be extremely complex. However, some differences already exist among the universities and the planning process should attempt to identify them and take advantage of their further development for the improvement of the system.

For example, many areas of professional study (engineering, law, medicine...) are restricted to a limited number of campuses. Also, the historical evolution of some institutions has given them particular areas of emphasis such as engineering, agriculture, liberal arts, etc. Such trends could be identified and their development encouraged leading ultimately to a more rational basis for future planning.

The equally thorny question of the restriction of doctoral studies to certain institutions has not been firmly resolved in any acceptable way. The Procedures for Initiation of New Graduate Programs adopted in 1972 clearly restricted the emerging universities to programme development at the master's level. There are now very strong views that this was not intended as nor should it be a permanent, or even extended, ban on doctoral work for those institutions. On the other hand there are strong arguments against the diversion of scarce resources into the development of new doctoral programmes at a time when falling enrolments may jeopardize existing programmes.

These are obviously important facets of the interaction between institutional and system planning which must be resolved if a cooperative approach to planning is to have any hope of producing a more rational development in the future. The question of doctoral studies is very closely linked with research and the scholarly achievement of faculty.

e. Research and Graduate Studies

The relationship between graduate studies and research is extensive and varies considerably from discipline to discipline and even to some extent, from institution to institution for a given discipline. Certainly doctoral studies require advanced research but there are numerous examples of excellent research being performed in the absence of any graduate programme. It is not so much a question of whether scholarly work can be performed in the absence of graduate students, but whether, in the absence of a graduate programme, the faculty can be supported in their research endeavours in terms of adequate resources (library, equipment, etc.) and reasonable undergraduate teaching loads.

The place of research, as well as graduate studies, in the goals of the institutions and of the system will have a significant impact on the form of graduate programme planning which would be acceptable to the universities of the province. The success of the future graduate programme planning exercise will depend on a clear statement of goals for the system in relation to research which must, in turn, be reflected in the planning and funding operations.

3.2 Proposal for a Modified Planning/Appraisal Process

In the early development of collective action for the appraisal of programme quality and the preparation of discipline planning assessments, it was generally agreed that the two processes should be kept entirely separate. Although both processes require an evaluation of quality, there are significant differences in approach. The appraisal function involves a rigorous and detailed look at the programme and the resources available to the participants. Much of the documentation is confidential to the consultants and to the committee whose deliberations are also confidential. Only the final recommendation is published. On the other hand, planning is a more open process with fairly wide distribution and discussion of the consultants' report which is later published in the resulting volume of Perspectives and Plans for Graduate Studies. The evaluation of quality is less rigorous than for an appraisal and tends to be combined with other factors such as the size and breadth of the programmes to produce some form of comparative basis for planning recommendations.

In spite of the clear separation of the two functions, the resulting decisions are interactive and have produced some unusual situations. For example, some programmes have received good planning support and later failed to obtain favourable appraisal. In other cases, a number of programmes judged by the planning consultants or by ACAP to be of questionable quality have been recommended for closing unless they obtain favourable results in a consequent appraisal based on a more detailed submission than was used in the planning process. In some of these situations, ACAP has been allowed to request from the common consultants selected for the appraisal, their advice concerning a number of planning questions. The results have been generally beneficial in that the scope of the questioned programmes has been more clearly defined and their quality has been established as being at least at the same standard as the accepted programmes.

If a planning/appraisal process is to function effectively, the objectives of the exercise must be clearly understood. The original ACAP objectives were expressed in terms of quality, rationalization and breadth of the graduate programmes across the system, but without any clear indication of where the emphasis should be placed. It is fairly generally accepted that the impact of the operation on the quality of the offerings has been quite beneficial. The results in the area of rationalization are more difficult to assess. The proliferation of new programmes has certainly been curtailed but it is not possible to say precisely to what extent. On the other hand, the closing of existing programmes has not occurred to any significant extent across the system in spite of recommendations in some of the plans that consideration be given to such action. Even in these cases, however, beneficial results have accrued in the form of consolidation and strengthening of what exists through the closing of parts of programmes.

There are problems of various kinds associated with the closing of good quality programmes on purely planning grounds. Some of these are of a purely institutional character while others have significance for the system as a whole.

1. Such recommendations are usually based on a consideration of enrolment projections, estimates of manpower needs, and the existence in the system of so-called "excess capacity". In fact, both enrolment projections and estimates of manpower needs are notoriously unreliable and the significance of the term "excess capacity" is highly questionable.

2. The assignment of resources to a graduate programme is never exclusive and the savings from the closing of such a programme will usually be minimal and will depend upon the specific situation in each case.

3. The interaction of the resources and activities of a given programme with other programmes, particularly directly related undergraduate programmes, is fairly complex and the impact of its closing on the other areas can be assessed only by the university itself.

These matters are discussed at length in Appendix I. The results suggest that "...the closing of a programme has such potentially negative consequences that decisions of this type should be imposed by the collective agency only when the quality of the programme has been judged inadequate." The arguments and recommendations in the above report were accepted by OCGS and COU to serve as the basis for the development of a new proposal for the planning/appraisals operation which would also consider the important question of reassessment. Accordingly, the following principles, extracted from the recommendations of the report of the special committee, are hereby proposed as the basis for a revision of the by-laws and procedures under which ACAP and the Appraisals Committee operate.

1. "The work of Appraisals Committee should be strengthened with respect to the choice of consultants and the current practice of using lists provided by the university. The committee might, for instance, seek the advice of other sources including the Discipline Group on this matter. The university should, of course, have the right to comment on all candidates, but the committee should have final authority in the selection process.

2. The quality aspects of the planning process should be strengthened by integration with the appraisal process where existing programmes are involved. This would ensure planning decisions based on rigorous quality judgments and would eliminate the need for consequent appraisals except to ensure that planning recommendations are being implemented and are having the desired results, e.g. if indicated by a five-year review.

3. ACAP should have a much earlier involvement with the universities and a much closer liaison with them in planning for new developments. Some decisions concerning programme distribution should be worked out before resources are set in place.

4. ACAP should review the proposals for all new doctoral programmes and for those new master's programmes which lie outside the core disciplines and recommend approval or otherwise to OCGS.

5. ACAP should monitor and keep the universities informed about provincial graduate enrolments, calling attention to major changes in trends and arranging, when appropriate, for meetings where the universities concerned can discuss how the system might best accommodate to the change.

6. ACAP should not be involved in recommendations to close existing programmes that have been judged of suitable quality."

The interactions between the two processes are complex. New by-laws and procedures will have to be very carefully drafted to ensure that maximum benefit can be achieved from the integration without loss of the integrity and confidentiality of the appraisals process which must be perserved at all costs. Where large numbers of programmes are involved, the cost of the appraisals and the time required for their completion may extend the overall operation significantly and a detailed schedule of the combined exercise would have to be approved with the accompanying budget before the action is initiated.

The roles of reassessment and divisional planning in the new scheme will have to be established and accounted for in the new procedures. The universities and their collective agencies will need adequate opportunity to react to the proposed revisions and it is expected that the preparation of a sound workable proposal will require at least a year or more.

To provide a period of reasonable stability for the revision process and to provide a better data base on which to assess the results of the desenitization of funding to enrolment, it is recommended that the new funding procedure adopted in Advisory Memorandum 75-V be extended for an additional year.

3.3. Costs and the Scheduling of Future Planning Assessments

The cost of planning an activity such as graduate studies must be deducted from the total funding available to the activity and can be justified only in terms of improving the quality of the service rendered. There is obviously some point beyond which the allocation of a larger share of the resources to planning ceases to be beneficial. The optimum allocation to planning will depend on many factors such as the objectives of the exercise, the structure of the system performing the service and, to some extent, the history of its evolution, etc. Without attempting to justify any particular level of allocation to graduate programme planning in the Ontario universities, some examination of what has been done to date seems to be a reasonable basis on which to consider our course for the next few years.

a. Centralized Costs

Since the inception of ACAP in 1971, the centralized expenditures through to June 30, 1976 can be very accurately projected as follows:

General Office	$ 484,300
Consultants (fees and expenses)	$ 563,500
Total	$1,047,800

The expenditures have produced twenty-four planning assessments of which three have been limited as to scope and the use of consultants. If the three limited assessments and three other minor studies are excluded, the average cost for the other twenty-one disciplines is just under $50,000 each. This figure includes consultants' fees and expenses (average $26,350) plus all general office costs which cover, in addition to the direct planning function, all follow-up activities and in the current year secretariat functions for OCGS.

b. Dispersed Costs (General)

There are, in addition to the centralized costs indicated above, a number of costs assumed by the individual institutions in connection with a number of functions they are required to perform. They are difficult to quantify without detailed knowledge of the manner in which each institution organizes the work but a list of the functions will indicate the extent of involvement.

i) ACAP functions (members' time and expenses).

ii) Discipline group functions (members' time and expenses).

iii) Assembly of data for consultants (staff time, xeroxing, ...).

iv) Visits by consultants (faculty and staff time).

v) Review of reports and preparation of responses (faculty time, committee time, ...).

vi) Implementation reports and others called for (faculty time, administrative time, ...).

vii) OCGS involvement.

viii) COU involvement.

The portion of the above costs that should be directly assigned to the central planning operation is questionable. All universities plan their own development to some degree and the extent of overlap between central and institutional planning functions is not clear.

c) Consequent Appraisal Costs

Most of the planning reports call for some form of appraisal activity in connection with one or more of the programmes, either existing or proposed, that were considered in the assessment. Such recommendations range from review by the Appraisals Committee (which may itself lead to a full appraisal) through regular appraisal of specific fields or entire programmes to formal consequent appraisal with special requirements and procedures. Some of the recommendations refer to new proposals which would have to undergo appraisal in any case, but over half, to date, have been directed to existing programmes. Although much attention has been focussed on two or three cases involving only a few programmes, some form of appraisal action has been recommended for sixty programmes, an average of three per assessment. Some of the attendant costs at least must be allocated to the planning process.

d) Future Planning Costs

The following analysis is based on the premise that future planning assessments will be integrated with the appraisals operation so that the first step in the planning operation becomes the appraisal of all programmes in the discipline, both existing and proposed, across the system. Proposals that had not yet reached a sufficiently advanced stage for appraisal would be considered on that basis in the second phase of the exercise.

The next step in the procedure would be to assemble the necessary information to examine the summation of all the individual institutional plans in terms of what might be appropriate for the system as a whole. The emphasis to be placed on various factors such as manpower needs, student demands, accessibility, etc. would depend, to some extent, on the particular discipline and independent expert advice would be essential to achieve the best all round balance with respect to system goals and institutional objectives. With the appraisal of quality already completed, the role of any planning consultants would be significantly changed from their function in the current arrangement.

For a comparison of costs, an estimate will now be made of what it might have cost to perform the twenty-one assessments discussed earlier if the proposed procedures had been used. In that the early charges established for appraisals were too low and that current charges are certainly higher than would have been appropriate across the full period, the 1974-75 figures of $2,000 and $3,000 respectively for master's and doctoral programmes have been used.

The twenty-one assessments under consideration included 140 doctoral programmes and 102 master's programmes for an average per assessment of 6.67 and 4.85 respectively. The cost of appraisals would have been $20,010 and $9,700 for a total of $29,710, or $3,360 higher than the ACAP consultants were paid. However, the need for consequent appraisals (an average of three per assessment) would no longer exist and a saving of about $7,500 less $3,360, or $4,140 would result. Some or all of this would most certainly have to be spent in acquiring the kind of expert advice needed to make the best use of the appraisal results in establishing a plan for the discipline. On the whole, the cost would not

be significantly greater and the system would have the benefit of a plan developed in the light of a vigorous appraisal of the quality of all of the constituent programmes.

If annual planning commitments are maintained at the level of $200,000 (including general office costs) it should be possible to complete between three and five discipline assessments per year depending on the numbers of programmes involved. This is about the same rate as has been achieved since the start of the exercise.

It may be that a careful study of the appraisal procedure will indicate ways in which some savings could become possible when a number of programmes in one discipline are to undergo appraisal at the same time. Another approach to reducing costs of the proposed new scheme would involve the preliminary use of a coarse screen to identify those programmes that are obviously of sufficient calibre that full appraisal need not be required. In either case great care would be necessary to ensure the continued integrity of the process which is essential to the general acceptance of the results.

3.4 Summary and a Recommendation

The planning/appraisal process should remain in place but should be modified along the lines suggested in the Report of the COU Special Committee on the Financial Implications of Graduate Planning. The planning function should be based on a clearly developed statement of goals for the graduate activity which recognizes:

i) the essential role of research and scholarly work in the university and its relationship to graduate studies,

ii) the need for all faculty to have the opportunity to pursue research and/or scholarly work and their responsibility to do so,

iii) the relationship between resources, particularly human resources, and the quality of graduate studies,

iv) the need to maintain the essential resources for doctoral studies in those disciplines which are well developed and to improve resources for those underdeveloped disciplines where advances are essential to the general good,

v) the interaction between system goals which concern the overall development of graduate study in the province and institutional goals which must recognize the place of graduate study in the context of the overall institutional development.

The planning objectives must recognize the overall enrolment projections for the next two decades and the reality of the severe economic restraint now facing society. The need to increase doctoral enrolments about 1985 indicates that it will be less costly to maintain existing resources than to

allow them to decline and then attempt to rebuild them. Planning with respect to what exists in the well developed disciplines should focus on the improvement of quality with steady or even slightly declining enrolments. Some growth should be anticipated in some of the newer, underdeveloped disciplines and planning in these areas should be directed toward the most rational development of resources from the system point of view. The extent to which role differentiation has occurred among the universities should be studied with a view to possible improvements through encouraging further moves in this direction.

A new approach to the planning appraisal function is suggested. It emphasizes planning based on a preliminary, rigorous appraisal of quality of all existing programmes. Attention will be focussed on the initiation of new programmes to ensure a rational development from the system point of view. The closing of existing, high quality programmes will be left to the individual institutions with collective advice in the form of annual reviews of projected enrolments etc. by the discipline groups.

It is recommended that:

> the first stage of the development of a new planning/appraisal process be directed toward the preparation of a goal statement for graduate studies based on the points outlined above. The statement should be as clearly definitive as possible and should indicate priorities where conflicting directions arise.

4. THE ANNUAL REPORT TO OCUA

4.1 Purpose and Timing

The report to OCUA proposed in Advisory Memorandum 75-IV as an annual package was intended, among other things, to serve as the basis for funding decisions on new programmes. For the duration of the freeze at least, the report will not have that purpose but will serve to keep OCUA informed about the future intentions of the universities and about their actions in response to the recommendations of the planning assessments. The future role of the report will depend on the kind of funding mechanism to be adopted when the current system is dropped.

The submission of the annual reports should occur as soon as possible after the required information becomes available. The past practice of reporting in the spring would probably be best from the point of view of the universities but a decision on this point should be deferred until the precise nature of the data to be included has been agreed.

4.2 Implementation of COU Recommendations

The existing procedures for the collection and compilation of data for this part of the report appear to be satisfactory and unless additional information for this part of the report becomes desirable as the new planning/appraisals process takes shape, it is suggested that no change should be made.

4.3 Three-year Plans

OCUA Advisory Memorandum 75-IV and the Minister's letters of July 22, 1975 made it clear that a new approach to the consideration of three-year plans and their implementation was to be adopted, including a redesign of the format of the three-year plans themselves.

As suggested in the Report of the COU Special Committee on the Financial Implications of Graduate Planning, one of the problems to date has been the failure of the three-year plans to distinguish adequately among a wide range of proposals falling between the extremes of those that have been fully developed through the internal procedures of the university and are literally ready for immediate implementation and others that are at a very preliminary stage in the thinking of a department and are included only to keep open the possibility of future action.

Also, in that they listed only proposals for new programmes, the former three-year plans failed to give any indication of other changes being contemplated such as the addition of new fields, the deletion of existing fields or entire programmes, or planned increases or decreases in enrolment levels for existing programmes.

A proposed format for the new three-year plans is shown in Appendix III. All of the kinds of problems outlined above have been dealt with in designing the new format and the information provided will give a much clearer view of how the system will be reshaped in the ensuing three year period.

4.4. Planning Assessments, COU Reports and Recommendations

The annual report to OCUA should also provide up-to-date information on recommendations to modify the existing provincial plans as embodied in the approved discipline planning reports. Although such changes are not often proposed they are necessary to adapt the system to changing circumstances and their inclusion in the report will provide further information on future directions to be taken by the system.

Also, the conditions of a discipline are not static and the recommendations of the planning assessments cannot continue to have the same validity with the passage of time. There will come a time, depending on the quality of the original assessment and the rate of change in the discipline when reassessment is needed rather than modifications. The results of such reassessment should be included in the annual report to OCUA.

An equally important aspect of planning for the system is the completion of new plans and the report to OCUA should include all of the planning assessments that have been completed, up to and including COU approval, since the last report.

Finally, there should be a brief statement on planning assessments and/or reassessments in progress and a schedule of future planning operations.

The kind of report indicated above will provide a comprehensive view of the operation and results of the planning process and the implementation of the recommendations arrived at. It will also provide an indication of the areas on which planning activities will be focussed over the next few years.

4.5 Summary and a Recommendation

The annual report to OCUA will serve, for the duration of the freeze, to keep its members informed about the future intentions of the universities and about their actions in response to the recommendations of the planning assessments.

The implementation section should continue much as it has in previous reports but the section on future plans should be modified along the lines indicated in the revised format for the three-year plans shown in Appendix III. There should also be a section to provide up-to-date information on modifications to existing planning assessments and a schedule of new assessments and reassessments to be undertaken.

It is recommended that:

> the revised format for three-year plans shown in Appendix III be adopted in conjunction with the general approach to the annual report outlined above.

5. FUTURE FUNDING MECHANISMS AND THEIR EFFECT ON PLANNING

5.1 General Comments

The funding mechanism to be implemented following the period of the freeze will obviously have a considerable effect on the future planning and development of graduate studies in the province. It is most important that Council fully appreciate the impact of any decision on funding on the universities, both individually and collectively. The universities urge that Council consult with them before making any final recommendations in this area to the government.

While there is only a general indication in Advisory Memorandum 75-V of the purpose of the freeze, it has clearly given the universities a two to three year period during which they can make decisions about the organization of graduate studies, both within the individual institutions and in the system as a whole, free from the pressures of the enrolment sensitive BIU funding system. There is some suggestion that during this period the universities might be expected to reduce enrolment in certain programmes and perhaps even to terminate some programmes in order to concentrate resources in those areas where they have the greatest strength or in other areas where new developments are needed. If that is a desired outcome, it would be most unfortunate if, following the freeze, a university's income were to be substantially reduced because of any steps it had taken to consolidate its graduate activity in a smaller number of programmes of high quality. Such a development would be

contrary to the implied purpose of the freeze and would certainly be detrimental to the morale of the universities and to the whole graduate enterprise. It is extremely important that the future funding mechanism encourage rational planning and development in a direction to achieve the goals and objectives established for the exercise.

5.2 Some Alternative Funding Mechanisms

a. Return to a BIU System

One alternative would obviously be to return to the status quo ante. This would once again place a premium on growth as a means of funding graduate activity. It would also penalize those universities that had consolidated their graduate activities by limiting or cutting enrolment in certain programmes. In such a case, the value of the freeze to the future of graduate programme planning would be highly questionable and its original purpose even more so.

A second alternative would be a partial return to the status quo ante with some graduate programmes funded on a BIU system directly related to enrolment and a continuation of the freeze with inflationary adjustments for others. Such an arrangement would increase funding to encourage growth in those disciplines which are still underdeveloped in Ontario while at the same time providing the necessary stability of funding to maintain the level of quality in the well developed disciplines. It would be necessary for the universities to identify those disciplines in which continued growth should be encouraged.

The impact of enrolment averaging on any system of enrolment sensitive funding should be carefully studied in relation to its effect on the achievement of the goals established for the exercise.

b. Research Funding and Graduate Funding

A third alternative which has been suggested would be to separate the funding of research from the funding of graduate studies by establishing a research income unit and a graduate income unit. The former would provide allocation of research funding according to the research activity of the faculty while the latter would provide an allocation mechanism for the funding of graduate studies based on enrolments. A major difficulty with such a system would be the design of an allocation method for research funding which would be consistent with the objectives of fostering and sustaining excellence in research. On the other hand there are significant advantages to such a scheme. It would recognize the legitimate research needs of departments that are not involved in graduate education, particularly at the doctoral level. The problem of providing research support for faculty in such departments and thus avoiding stagnation has been recognized since the beginning of the ACAP planning exercise. The current thrust for rationalization in graduate studies suggests that some universities, and some departments in all universities, will not be offering doctoral programmes for the foreseeable future. Unless some means is found to provide support for high quality research and scholarly activity in these departments, they will find it increasingly difficult if not impossible to attract and hold high quality faculty.

At the same time, it must be recongized that much of the best research in the universities is performed in departments that do have doctoral studies and the maintenance of this work is essential. If research funding were to be established in such a way as to reduce the support in the best doctoral programmes in the province the final result would be disastrous.

The issue is an extremely complex one and any attempt to develop separate funding for research and graduate students must be approached with due caution. No simplistic formula will solve the basic difficulties and a detailed examination will be needed before any acceptable scheme can be developed.

c. Programme Funding

Still a fourth alternative would be to go to a totally different type of funding system than has been used in the past and to recognize different funding levels for different programmes. Funding could be related to the cost of the programmes and could depend to a certain extent upon the academic quality of the programmes. The objective of the provincial universities is to achieve excellence. Some programmes should be expected to achieve national and even international distinction and the funding mechanism could encourage such development. To be successful any system of programme funding would have to be sufficiently flexible to recognize the dynamic nature of graduate studies; it would have to provide for the growth and development of new fields and new programmes as the frontiers of knowledge advanced and as the patterns of quality shifted.

One type of programme funding which has been alluded to would involve different funding levels and/or mechanisms for "general" and "specialized" programmes. It has even been suggested that only "general" programmes should be funded. Universities would presumably be free to mount "specialized" programmes but would not receive funding for them. This proposal would not be desirable for a number of reasons. The issue will be discussed in some detail because of a specific reference to this possibility in Advisory Memorandum 75-IV.

In the first place the terms "general" and "specialized" are not well defined. They were introduced by ACAP to apply in very limited operational senses only. They have different applications in different disciplines. Before they could be used as the basis for a funding scheme it would be necessary to classify all existing programmes as one or the other. It is doubtful if this could be done consistently. It is generally recognized that very few if any graduate programmes can cover all of the fields in a discipline. Differentiation would therefore depend on defining the scope required for a programme to be "general". There is no clear cut basis for such a definition and any categorization would be to a large degree arbitrary.

Even if such a classification could be performed consistently, its use as the basis for funding would be questionable because it would rely on the wrong criterion. If there are to be different funding levels for different programmes, the criterion must be academic quality not scope. In some disciplines it might be best to concentrate resources in a small number of programmes of broad scope. There will be other disciplines, however, in which the strongest system of programmes for the province would be achieved by having a number of high quality "specialized" programmes. In still other areas, a mixture of programmes might produce the best overall system. Any funding system based only on the scope of the programmes would force the universities into offering only broad programmes and this could be achieved in some cases only at the expense of quality.

d. Indefinite Extension of the Freeze

As a final alternative, consideration is given to continuing the present system of funding graduate studies in which the grant to each university is independent of enrolment and is adjusted annually for inflation. Under such a scheme in the long run, there would presumably have to be an examination of the funding base for each university at periodic intervals to adjust for any large changes in enrolment or for desirable new developments. It is recognized that continuation of the freeze would affect adversely, those universities which are still growing and that some adjustment of the initial base might have to be made. In the long run however, this scheme would provide a fair measure of stability and would encourage the universities to continue to plan their graduate development free from the financial pressures inherent in any enrolment sensitive funding method.

5.3 Summary and a Recommendation

A number of possible funding mechanisms have been examined in terms of their impact on planning and the future direction of graduate study in the province. The list has not exhausted all of the possibilities nor have all of the ramifications of any one of them been explored. Some of the advantages and disadvantages of each have been considered but a firm recommendation in support of any particular approach would require a detailed analysis of its impact on the achievement of a particular set of goals and objectives.

It is recommended that:

> high priority be given by OCGS, COU and OCUA to the development of a clear statement of goals and objectives for graduate study in the system following which attention can be directed to the design of the most suitable planning/appraisal process and an appropriate funding mechanism.

APPENDIX I

COUNCIL OF ONTARIO UNIVERSITIES

REPORT OF

SPECIAL COMMITTEE ON THE FINANCIAL IMPLICATIONS

OF GRADUATE PLANNING

REVISED MARCH 1976

MEMBERSHIP

Dr. T. Brzustowski	Waterloo
Dr. A. Lee	McMaster
Dr. N. Tayler	Wilfrid Laurier
Dean P. Hagen	Ottawa
Dean A.E. Safarian	Toronto
Mr. B.L. Hansen	COU
Dr. H.H. Yates	OCGS

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SUMMARY AND RECOMMENDATIONS

It is noted in the Introduction that the OCUA Advisory Memorandum 75-V and the Minister's letter of December 12, 1975 constitute a clear acknowledgement that the Ministry has taken over direct control of the funding of graduate study leaving to the universities those matters pertaining to the quality and direction of the enterprise. The impact of these changes on the planning/appraisal processes is considered in later sections and some of the recommendations reflect the conclusions reached.

The report stresses the vital role played by graduate study, research and scholarly work in developing the future intellectual leaders of our society. The importance of these activities to the quality of the Ontario universities is emphasized in relation to the support given to their development through the funding and planning arrangements adopted from the mid-1940's to the late 1960's. A comparison with other jurisdictions draws attention to the conservative magnitude of the development and should set to rest any claim that the graduate enterprise is in any way excessive.

The complex nature of graduate planning is highlighted by setting out a number of questions whose answers bear on the academic and financial implications of particular decisions. The questions fall into four broad categories dealing with growth projections and system capacity, resource allocations, interactions with other activities within and without the university involved, and the importance of and alternative arrangements for research and scholarly work.

Consideration is then given to an analysis of the complexity of planning decisions under two sets of circumstances postulated with reference to items 1 and 2 of the committee's terms of reference: 1) to increase capacity by introducing a new programme as opposed to enlarging existing ones, and 2) to reduce excess capacity by closing one or more programmes as opposed to continuing existing programmes with reduced utilization. Both types of decisions require detailed knowledge of many parameters and a careful analysis of the consequences of alternative routes. They depend on the particular circumstances related to many variables and a common solution for general application is not considered feasible.

The process of planning and the role of ACAP in the future development of the Ontario universities are reviewed, particularly in the light of Advisory Memorandum 75-V. Four quite different but complementary roles for ACAP are seen:

1. in relatively new fields where significant growth is indicated, ACAP should have an early involvement with the universities (before resources are set in place) to establish what would be the best arrangement of programmes for the development of the field from a system point of view,

2. for established fields the proposals for all new doctoral programmes and for those new master's programmes which lie outside the core disciplines should require the approval of ACAP, OCGS and COU,

3. for established fields, ACAP should monitor and keep the universities informed about provincial graduate enrolments; where a major change in a particular trend becomes apparent, either up or down, the universities concerned should be brought together to discuss the best way in which the system might accommodate to the change, and

4. for established fields, and for new fields after the initial distribution has been agreed, ACAP's role should be integrated with the appraisal process with the focus of the combined activity directed towards a continuing improvement in the quality of graduate education in the province. The universities' existing commitment not to proceed with programmes which do not receive successful appraisal should be extended to the integrated planning/appraisal process.

Given the above controls on the quality of graduate study and the introduction of new programmes and the careful monitoring of enrolments with discussion when appropriate, decisions concerning the closing of existing programmes which have been judged to be of good quality should be left to the universities concerned. Most resources have more than one use and a sound university plan must be sufficiently flexible to ensure that the use of resources for graduate study is efficient and meshes well with other proper uses within the context of the institution's goals and objectives. Under these conditions, the best adaptation to changing conditions is more likely to be achieved by a careful internal review of possible alternatives than by an externally imposed decision that a particular programme should be closed.

The significance of the three-year plans is considered briefly in the light of the recommendations of Advisory Memorandum 75-V and suggestions for improvement are noted. Comment on funding mechanisms is also made.

RECOMMENDATIONS

The recommendations of the OCUA Advisory Memorandum 75-V have clearly changed the rules for the funding of graduate programmes. It is equally clear that both OCUA and MCU will continue to have a deep interest in the progress and results of the planning process. It would seem that the universities have been given a two or possibly three year period in which to show that effective planning can be accomplished when the influences associated with BIU funding have been removed. Arguments presented in this report suggest that the closing of a programme has such potentially negative consequences that decisions of this type should be imposed by the collective agency only when the quality of the programme is judged inadequate. Such decisions based on other grounds should be left to the university. The following recommendations are proposed:

1. Consideration should be given to modifying the planning process along the lines indicated above with the following changes in the roles of the Appraisals Committee and ACAP.

   a) The work of Appraisals Committee should be strengthened with respect to the choice of consultants and the current practice of using lists provided by the university. The committee might, for instance, seek the advice of other sources including the Discipline Group on this matter. The university should, of course, have the right to comment on all candidates, but the committee should have final authority in the selection process.

b) The quality aspects of the planning process should be strengthened by integration with the appraisal process where existing programmes are involved. This would ensure planning decisions based on rigorous quality judgements and would eliminate the need for consequent appraisals except to ensure that planning recommendations are being implemented and are having the desired results, e.g. if indicated by a five-year review.

c) ACAP should have a much earlier involvement with the universities and a much closer liaison with them in planning for new developments. Some decisions concerning programme distribution should be worked out before resources are set in place.

d) ACAP should review the proposals for all new doctoral programmes and for those new master's programmes which lie outside the core disciplines and recommend approval or otherwise to OCGS.

e) ACAP should monitor and keep the universities informed about provincial graduate enrolments, calling attention to major changes in trends and arranging, when appropriate, for meetings where the universities concerned can discuss how the system might best accommodate to the change.

f) ACAP should not be involved in recommendations to close existing programmes that have been judged of suitable quality.

2. It is proposed that the recommendations in the ACAP reports should not be altered by COU without discussion between representatives of the two bodies to determine what effects the proposed changes would have on the overall objectives and implementation of the planning assessment. A relatively simple change in one or two recommendations may give a quite different and unintended significance to one or more other recommendations.

3. It is recommended, in connection with the revision of the three-year plans proposed by OCUA in its Advisory Memorandum 75-IV, that OCGS be asked to develop a classification system in which each programme listing would show clearly the level of priority attached to it by the university and the extent to which resources have already been set in place or committed for its development. It is understood that work in this direction has already been initiated by OCGS.

4. It is recommended that urgent priority should be given to the preparation of a report to OCUA and MCU outlining the kind of planning process envisioned above and arguing that graduate study in the province has not been over-extended, that economic and other factors have already brought about a levelling of full-time graduate enrolments, that the continuing growth in part-time enrolments has been encouraged by government and society and serves a useful purpose often at relatively little cost, that the enforced closing of good quality programmes is not the key to good planning and that continued emphasis on this negative aspect of the process is likely to be more harmful than beneficial. The detailed study necessary to the implementation of the above recommendations and to the preparation of the proposed report is properly the responsibility of OCGS and its committees and should be referred to them. Consideration should also be given to extending the report to include a study of the recommendations on a future approach to funding as suggested in the last section of this document.

5. It is recommended that the Special Committee on the Financial Implications of Graduate Planning be dissolved.

INTRODUCTION

The Terms of Reference given to the committee are as follows:

1. to examine the financial and academic consequences of introducing new graduate programmes as contrasted with expanding existing programmes,

2. to examine the financial and academic consequences of discontinuing some graduate programmes,

3. to compare the overall size of the graduate enterprise in Ontario with that in other appropriate jurisdictions,

4. to seek and obtain as required, the assistance and advice of OCGS and ACAP and the graduate deans,

5. to provide a progress report giving the results of these investigations by the end of December 1975 and proposing a course of further action.

The committee met five times between October 30, 1975 and December 11, 1975 when a draft report was discussed. The first meeting was devoted to introductory comments by Dr. J. B. Macdonald and an attempt to elucidate more specifically the genesis and real nature of the planning problems referred to in OCUA's Advisory Memorandum 75-IV and in the Minister's letters of July 22, 1975. The need for better communications with OCUA and the Ministry to clear-up misunderstandings that are obviously affecting their thinking was emphasized.

Later meetings saw attention swing from a general discussion of the complexity of the task of trying to provide precise quantitative statements under the first two terms of reference to the more fruitful exercise of listing the factors that determine the consequences of the various actions indicated. Also, preliminary consideration of data from other jurisdictions indicated that those with similar technological and socio-economic make-up would provide more meaningful comparisons. Draft comments prepared by the members were discussed as they were brought to the meetings and the report submitted in January 1976 was an attempt to bring together the many views expressed and the points noted into an orderly pattern under the designated terms of reference. The committee met again on March 12th to consider the criticisms and comments expressed by members of COU. It was agreed that the basic approach developed in the report was sound but that clarification of some parts would be desirable and strengthening some of the arguments would be necessary.

THE IMPACT OF OCUA ADVISORY MEMORANDUM 75-V

Distribution of Advisory Memorandum 75-V and the Minister's letter of December 12, 1975 has drastically altered various roles in the exercise of graduate programme planning. OCUA and the Ministry have acknowledged that the level and distribution of funding for graduate study is directly under their control. The universities have been left with clear discretion as to the quality

and direction of the activity. They have been given a period of time within which to review and reconsider their plans for graduate work and to implement changes without financial penalty or gain. This is seen as an opportunity to bring strictly academic considerations to bear on the planning process. Planning decisions will be made in a trade-off climate and the universities will have to act accordingly, both individually and collectively. The activities of ACAP and the Appraisals Committee will be even more important and some integration of the two roles may be desirable.

GENERAL COMMENTARY

At this time, when the frontiers of knowledge are being extended at a pace beyond the wildest imaginings of our forebears, when the fabric of our society is being stretched to the limit and beyond by the impact of technological advance and social and ideological upheaval, when improved communications are focussing attention on the ever widening disparities between peoples, the role of graduate studies and research has become a vital factor for the health and well-being not only of the universities themselves, but also for the very society in which they exist. This facet of the university provides opportunity for those with exceptional ability and motivation to develop to the fullest extent their capacity for creative thought and work. In so doing, it also provides a continuing pool of intellectual leaders, leaders who, if their education is of high quality, will be capable of meeting successfully the serious challenges of the future. We have a responsibility not to let the universities fail in this task.

Scholarly work and research are essential activities in the university. They occur very largely, but not exclusively, in the context of graduate programmes. They provide opportunity for the continuing development of the faculty who must, if they are to provide the leadership so essential to their educational role, remain themselves at the forefront of their fields. The current pace of advance in most scholarly fields of endeavour is so great that all faculty, including those whose primary effort is directed to the under-graduate level, must maintain effective contact with developments in their fields. In the Canadian context, this contact has generally been assured by placing the responsibility for all levels of education in a particular field in a single department. With this structural arrangement it is not possible to identify unambiguously the resources which are devoted to the graduate programmes.

The university system of a modern, technological and heterogeneous society such as Ontario's must maintain a healthy measure of activity at all levels or be prepared to face a decline in the quality of education it offers. There are, of course, questions of how much activity is adequate or desirable at the various levels, how much can be offered, etc. It would be extremely short sighted to divert resources entirely from well based graduate programmes to meet the sometimes fickle and explosive demands placed on the undergraduate operation. The long term well being of undergraduate education rests directly on the ability of the system to provide the necessary numbers and quality of faculty to meet the demands of the future. There is no doubt that it takes time and money to develop the resources necessary to offer the full range of education at all levels. In a large, multicampus system with limited funds, all things,

cannot be introduced simultaneously at all locations. There are, then, questions of how the activity should be distributed, what is the ideal arrangement, etc.

Planning in such a milieu is a complex function. The total amount of graduate study and research activity which the society can and will afford is unquestionably a political decision. (The Minister's acceptance of the recommendations in 75-V is an acknowledgement of this fact.) Nevertheless, the universities have a duty to advise those responsible for such decisions of their needs and to convince society of the vital role they play in its future well-being. Beyond that, questions relating to distribution among the geographic areas and among the various levels can only be answered effectively within the system. Arbitrary decisions imposed on the system from outside may produce an unhealthy imbalance which could have far-reaching implications for the long range future. It is generally agreed that, to the greatest possible extent, the decision-making role should be left with the individual universities. It is also recognized, however, that individual decisions do have an effect on the whole and that cooperation within the collectivity is necessary. How then, do we tackle the questions raised in our terms of reference?

There are no general answers to these questions. The financial and academic consequences of introducing, expanding or discontinuing graduate programmes depend in a complicated fashion on the circumstances of the programmes, and decisions on such measures must be made only when these consequences have been examined in detail. The following comments are a first attempt to suggest a framework within which some of the consequences might be viewed.

PLANNING, CHANGE AND CONSEQUENCES

The role of research and scholarly work in the university has already been discussed in an earlier section. Although it is entirely possible for an individual or a group to achieve the leadership and intellectual climate so vital to the university without the benefit of a programme of graduate study, the challenge of interacting with advanced graduate students often exerts a strong pressure to develop graduate programmes.

The decision to respond favourably to the pressure for graduate studies in a particular case has obvious consequences for those immediately concerned, namely, faculty and students. There are also consequences, usually less obvious, but often equally important, for the university as a whole and ultimately for all of society. The cumulative effect of a long series of such decisions determines the quality of a university. Experience has given most universities an approach to such decisions which is appropriate to their historical development, their current aspirations and their level of funding. Proposals are approved, delayed or rejected according to the dictates of internal policies, procedures and objectives. The quality of the universities reflects the success of such decisions.

Since the mid 1940's, the universities of Ontario, individually, have undergone considerable development. Their successes have been due partly to sound internal policies and procedures and partly to vigorous financial support by the government made possible by the healthy economic climate of the period. During most of this period, each university enjoyed almost complete autonomy in the running of its affairs, with the prospect that any reasonable growth would be paid for under the BIU formula financing.

Rapidly rising enrolments and their equally healthy projections combined with the economic slowdown of the late 1960's to produce new strains on the system as a whole. Graduate study was seen as an open-ended and expensive activity whose quality had to be verified. In the first instance, a province-wide appraisal process for new programmes was introduced to ensure that an acceptable level of quality was maintained across the system. Later, system-wide planning was introduced through ACAP. These operations did begin to ease some of the strains but their successes have been overtaken partly by the notable change in enrolment patterns about 1970 and partly by the further worsening of the economic situation. Figure 1, excerpted from the 1975 Statistical Report of the Canadian Association of Graduate Schools clearly shows that while the total national graduate enrolment increased by almost 60 percent between 1968-69 and 1974-75, most of the change occurred in part-time studies which increased nearly 140 percent. The change in full-time enrolments during the same period was about 25 percent. These changes are slightly distorted (upwards) by the inclusion of pre-master's enrolments beginning in 1971-72.

National and Ontario enrolment figures from the same source are listed in Table 1 for the period 1971-72 to 1974-75. Increases are significantly smaller, but analysis of the data shows a similar distribution pattern between part-time and full-time study. Total graduate enrolments in both jurisdictions increased by about 14 percent over the four years, but the change over this period was practically exclusively in the area of part-time studies: 40 percent at the national level and 35 percent in Ontario. The comparable full-time figures are 0.06 and 2.7 percent respectively. At the doctoral level, full-time enrolments decreased 13.2 and 6.0 percent at the national and provincial levels, respectively, while increases in part-time registrations changed the total enrolments to give an overall national decrease of 1.5 percent and a small overall provincial increase of 3.1 percent.

It is quite clear that the explosive growth of the late 1960's has declined to the point of extinction in the area of full-time study and to a much more modest level for part-time studies. Nevertheless, the need to curtail university expenditures in the province has been forcefully reiterated by the Ministry whose interest continues to focus on graduate work, and in particular on the number of graduate programmes. In response to Advisory Memorandum 75-IV, the Minister expressed a clear concern that "excessive" duplication of graduate programmes, particularly poorly populated programmes, is a luxury which the system can no longer afford. In response to Advisory Memorandum 75-V, MCU has effectively frozen the level of graduate activity which it will support. Will a comparison with other jurisdictions justify such forceful action?

Appendix A provides comparative data for undergraduate and graduate enrolments for Canada and the U.S.A. (1971-72 and 1972-73) and for Ontario and Illinois (1974-75). The national figures show Canadian graduate enrolments to be 11.3% and 11.5% of total enrolment respectively for the years shown while the comparative figure for the U.S.A. was 14.2% for both years. The Ontario-Illinois figures are considered to offer a more appropriate basis for comparison as discussed in the Appendix. The difference here (Ontario - 9.9%; Illinois - 17.7%) is even more striking than that indicated by the earlier national figures. Even on a per capita basis, Illinois with 2.5 graduate students per 1,000 population is higher than Ontario with 2.2. On the other hand, the overall enrolment supported in post-secondary education is much higher in Ontario (42.5 per 1,000) than in Illinois (25.3 per 1,000). There is certainly no indication that Ontario has developed a graduate enterprise beyond the level to be expected in a similarly advanced jurisdiction on this continent; if anything, it might be considered inadequate.

THE IMPLICATIONS OF GRADUATE PROGRAMME PLANNING DECISIONS

Harsh "planning" of the sort implied in OCUA's Advisory Memorandum 75-IV constitutes a new and serious infringement on the autonomy of the university. It is one thing to control the rate at which an institution can grow through financial support. It is quite another matter to impose constraints from the outside to say how it will grow. To go even further by dictating that certain programmes of good quality must be closed is to move into deep and murky waters. The financial and academic ramifications of closing down graduate programmes are numerous, complex, and not at all obvious.

It will help to consider in the first instance that certain consequences are of immediate concern primarily to the university, the system or the government. They relate to the numbers and distribution of students and programmes; they have relevance to the academic flexibility across the system and, until the circulation of Advisory Memorandum 75-V, to funding. Other consequences have their impact at the departmental level affecting budgets, faculty, curricula, resources and the quality of education provided by the department. All of the consequences are to some extent interdependent and the nature of their interactions depends upon the particular circumstances surrounding a given decision.

Before any attempt is made to examine the financial and academic implications of a particular planning decision, numerous questions must be answered in four broad areas. The relative importance of the answers will vary from case to case and not all of them will have relevance in every case. Only some of them can be formulated in quantifiable objective terms; some, of necessity, will be based on subjective judgements. Not all of these questions are relevant to central planning decisions. In fact, many of them can be asked and answered only by the universities themselves. This list is intended to be indicative but it is certainly not exhaustive.

1. Growth projections and system capacity - these relate to the quality, breadth and accessibility of the system's offering.

   a. Are there special manpower needs related to the wide sprectrum of Ontario's activities in government, industry, commerce, education and other services. Are they growing, static or declining?

   b. Is student demand increasing, static or decreasing?

   c. What is the system capacity in relation to growth projections? Should the total demand be met? Is there unused Canadian capacity outside Ontario?

2. Resources - these relate to costs and to the quality of the offering in each programme and hence also in the system.

   a. What resources does the programme require (or use) in terms of staff, equipment, library, space?

   b. What resources are in place? Where are they located? What are the age and tenure profiles of the faculty? What are the maintenance costs of keeping equipment and space in good working order, up-to-date? How do the specific programme costs vary from university to university?

   c. What will be the effect on other plans and priorities of the particular university and of other universities in the system?

   d. What arrangement of resources, including the placement of new resources if required, would give the best adjustment of capacity for the system in relation to growth projections?

3. Interactions - these relate to the impact of starting or stopping a particular programme on other activities.

   a. What will be the gain or loss to related undergraduate programmes in terms of special resources (faculty expertise, equipment), teaching assistants, etc.?

   b. What will be the effect on other closely related programmes where shared interests, faculty and resources may be involved?

   c. What will be the effect on other development plans for the campus?

   d. What will be the effect on the distribution of students in the system? Would the result constitute an improvement of the whole?

4. Research and scholarly work - these relate to the imperative need for university faculty to maintain close contact with developments in their fields and to participate in those developments.

4. a. How vital is research and/or scholarly work to the maintenance of high quality in undergraduate programmes in the pertinent field and in other related fields?

   b. How important is research in the field to the general health of the discipline or profession and its impact on society?

   c. Are other research arrangements, independent of graduate studies feasible? What would their costs be relative to those of the graduate programme?

Obviously, planning decisions may involve a wide range of circumstances and will be relatively simple or complex depending upon the particular situation in the department and university concerned on the one hand, and in the system as a whole on the other. Even when all of the many questions have been answered, good planning would require a careful analysis of the overall results to be achieved by alternative decisions.

As indicated above, location and distribution of planning authority is a complex problem. The objectives and priorities of the planning exercise and the extent to which the necessary analysis depends upon judgemental assessments are major factors to be considered in establishing the design of the planning process and who should be involved in the decisions. The government's responses to Advisory Memoranda 75-IV and 75-V clearly indicate that, at least on an interim basis, it has assumed the responsibility for direct control of the total amount and the distribution of monies to be paid to the universities for graduate studies. Although the detailed manner in which the universities should adapt to the new circumstances has not been spelled out, there is evidence of a very strong belief that unnecessary duplication of programmes exists and should be eliminated. The remainder of this section attempts to delineate some of the complexities of planning decisions related to increasing and decreasing demands on the system.

Two Sets of Circumstances

In the present context and the given terms of reference, only two of the many possible sets of circumstances will be considered:

1. where existing programmes are in place and growth projections indicate the need for increased capacity which might be accomplished by introducing a new programme or by expanding existing programmes, and

2. where existing programmes are in place and growth projections suggest the possibility of closing one or more of them.

CASE 1 - To Introduce a New Programme or to Expand One or More Existing Ones

The situation described here assumes that the answers to questions posed in area 1 have been decided, and some expansion of capacity is desirable. Questions related to resources and their allocation can be separated readily into those of a primarily institutional nature and those having relevance more pertinently to the system as a whole. In the case under consideration (expansion of capacity), any institution whose existing resources form an adequate base on which to build the required development would benefit by receiving the additional resources necessary to expand its existing programme or to introduce a new one. On the other hand, under the new funding arrangements (Advisory Memorandum 75-V) the provision of such resources could only be accomplished by the diversion of funds from other areas, a process which would require internal trade-offs and which may be severely hindered by tenure problems and the like. A decision to provide the additional capacity on a particular campus must be based on a firm commitment from the university that resources necessary to ensure the desired quality can and will be made available. Even when a given increase in capacity could be achieved with moderately less outlay by expansion of an existing facility, the addition of a new programme elsewhere may be justified in terms of the ancillary benefits to the particular university and an improved overall balance for the system. For example, additional staffing needs for a vigorous and growing undergraduate programme might be eased by the use of teaching assistants drawn from the pool of graduate students which becomes available when a graduate programme is introduced. The full range of implications of such alternatives can only be assessed by a detailed study of what exists (in total), what is required (also in total), and the costs and side-effects of achieving the needed growth in different ways. Such a study must examine the situation both from the points of view of the individual institution and of the system as a whole.

Many of the questions posed under "interactions" can be answered fairly directly on an individual university basis. For example, there is no doubt that, given adequate funding, either the introduction of a new graduate programme or the enlargement and strengthening of an existing one would have a beneficial effect on closely related undergraduate or graduate programmes in the institution concerned. Equally surely, in the absence of additional funding, such benefits would accrue at the expense of other developments on the campus. The comparative judgement of which activities would do most to ensure the sound, overall development of the institution is properly the domain of the institutional development of the institutional authority. However, the impact of such decisions is rarely isolated and there is a broader concern about which decision would be most suitable for the province as a whole. This is properly a concern of the collective system and the decision must be worked out cooperatively amongst the member institutions. Comparative judgements at this level should be made by a collective agency which has the necessary experience and support to assess the relative merits of various alternatives, not only for the individual institutions but also through them, for the system as a whole. Clearly in a field covered by one marginal programme it would be preferable to strengthen what exists, rather than to proliferate by the creation of a second marginal programme in spite of benefits that might accrue to the specific institution if the second alternative were chosen. Alternatively, in a field for which there are several well-developed programmes, the academic benefits to be gained by a particular institution (and hence by the system) if it is allowed to develop a new programme, may in spite of apparently disadvantageous cost factors, outweigh the benefits to be gained by expanding others.

Finally, there are important questions to be answered in the area of research and scholarly work. The relationship between these activities and graduate studies is well-established on this continent and while it is not one of nature's absolutes, it must be recognized in any discussion of the overall quality of the university system in Ontario. The closeness of the relationship varies markedly with the discipline, partly due to historical development, but it also depends to some extent on the individual faculty members. Funding arrangements have certainly been a factor here, and the future vitality of those parts of the provincial system which are expected to operate without any hope of graduate programmes will depend in a very real and direct way on alternative support for research and scholarly work. The relative cost of such alternative support would certainly be a significant factor in some instances where planning involves the type of choice indicated in Case 1.

CASE 2 - To Close Down One or More Programmes in Line with Changing Enrolment Projections

Here again, questions related to growth projections and capacity have been answered leading to the kind of choice indicated. Also, since the more dramatic implications lie with a decision to close down one or more programmes, this facet of the discussion will be emphasized.

In such instances, the utilization of resources (both physical and human) may be intricately related to other programmes and activities including the conduct of research and/or other scholarly endeavours. What, for instance, might be gained by closing down a high quality programme for which the necessary resources are already in place? In the case of moderate to large size programmes, some release of resources to other uses might be expected with respect to space, library facilities, equipment and staff. It must be recognized, however, that the allocation of resources by a department to its various responsibilities is not absolute and that the cessation of one activity does not wholly release the resources that were used in its performance. Further, unless effective use can be made of released resources in other needful activities, nothing will really be gained and the waste of investment will constitute a direct loss. This cost should be weighed against the cost and benefits of continuing the programme.

The redeployment of resources to similar programmes on other campuses would be difficult and, in the given circumstances of overall excess capacity, the benefits to the recipient programmes would in most cases be minimal and more than offset by attendant losses to other activities on the donor campus. For example, most of the resources used in connection with a particular graduate programme (including space, library, equipment and staff) also find use in the upper years of the undergraduate programme and in other closely related graduate programmes. Their transfer to another campus would have a detrimental effect in all such areas. Too, the loss of these facilities to the staff for the conduct of research and scholarly work would constitute a serious handicap to the maintenance of good staff morale and may, in the longer term, lead to a general decline brought about by the departure of the better members of the department. Unfortunately, the tenure and age profiles of the department make it impossible to ensure that departures can be arranged to leave a suitable balance of talents among those remaining. In the situation under consideration, it is argued that only in exceptional circumstances would the closing of one programme lead to significant improvement of the remaining programmes in the same field and, even then, the gains would have to be weighed against the losses on the campus required to drop its programme.

There is, of course, the possibility of increased use of the released resources by other activities or programmes on the same campus with attendant improvement in their operations. Here again, the net result for the campus as a whole will depend upon the particular circumstances. Short term improvements should not be accepted at the cost of long term disadvantages and decisions of the sort envisaged must be carefully considered. For example, a declining graduate enrolment for the province coupled with a growing and crowded undergraduate enrolment may suggest real advantages in favour of closing one of the graduate programmes and a diversion of all released resources to the undergraduate programme. However, marked growth at the undergraduate level usually forecasts a later growth at the graduate level and the future cost of meeting the demand of this later graduate growth must be carefully considered. Additionally, the diversion of resources to undergraduate activities will inevitably have a negative impact on the opportunities for research and scholarly work and the cost of either providing alternative facilities or depriving the faculty of such opportunities must be taken into account.

The transfer of faculty to other activities needing expansion provides a significant possibility for savings in both the short and long terms. However, such arrangements depend upon a fortuitous balance between the real needs of the expanding areas and the qualifications of those staff released by termination of the programme. There are also serious difficulties related to employment practices, age and tenure profiles and historical attitudes towards academic freedom. Potential gains tend to be of a long term character, and may be negated by a change in circumstances before the benefits are achieved.

In summary, the opportunity for short term benefits to be gained by closing a graduate programme of acceptable quality is highly problematical and intricately related to many internal factors of an individual, institutional nature. Even the longer term benefits, though more clearly indicated, are highly sensitive to local circumstances and it is doubtful if the best results would be achieved by collective decisions imposed on individual universities.

SYSTEM PLANNING

Sound planning requires that objectives be clearly stated and that certain basic decisions be made before resources are set in place and other commitments are made. A fundamental flaw in the procedures adopted by the Ontario universities has handicapped the graduate programme planning operation. In many instances, by the time an ACAP planning assessment is initiated, interested universities have already set in place the resources necessary to develop existing programmes or to promote new aspirations; institutional planning has reached such an advanced state that a negative decision by ACAP would lead to a serious waste of resources and would in some cases, force a university to renegue on firm commitments.

Planning, in the context of a well established system of universities and programmes, has two distinct facets; one related to the desirable future development of existing programmes, the other to the introduction of new programmes including entirely new fields of study.

As indicated earlier, planning with respect to existing programmes is a sensitive and intricate matter. The benefits to be gained for the system by closing existing programmes of high quality are marginal at best and the implications for the institution concerned are so potentially negative that an imposed decision of this kind would rarely be warranted and should probably be left in the hands of the institution.

It is argued that continued central emphasis on the need to reduce the number of graduate programmes is detrimental to the general well-being of the university community and more particularly to the morale of both staff and students. Appendix A clearly indicates that the overall magnitude of the graduate enterprise in the Ontario universities is not excessive. Also, the data presented in Figure I and Table I show that the explosive growth which occurred in graduate studies during the 1960's has tapered off drastically with a modest growth continuing only in the less demanding area of part-time study. The members of the committee are convinced that a strong graduate planning exercise based on improving the overall quality of existing programmes combined with a rational system-wide approach to the introduction and quality control of new programmes would do more to ensure the proper and controlled development of this facet of the university system than would continuing and excessive central attention to numbers of programmes and so-called "excess capacity". The use of a department's (or university's) resources is not a fixed and final absolute. Their allocation to the various responsibilities of the group is adjusted to cope in the most appropriate way with changing circumstances and the attendant shifts in emphasis and pressure. There is no fixed and specific allocation to a graduate programme which suddenly becomes "surplus" or "excess" just because there are fewer students one year than there were during the previous year. The manner in which a department should respond to particular fluctuations in the demands made upon it is intimately associated with its overall role in the university's pursuit of its goals and objectives. Imposed central decisions to close programmes cannot take into account all of the relevant historical and often unspecified functions of the departments within their universities.

However, the system has accepted the responsibility of ensuring the quality of the programmes offered and must be prepared to impose a decision to close a programme on this basis when the situation so dictates either because the university has failed to maintain an adequate commitment to the programme, or because the quality of the students enrolling is no longer adequate, or for any other quality-centred reason. A decision to close or revitalize a questionable programme would have to be based on a careful evaluation of many relevant factors.

In the matter of new fields of study, or new programmes, an individual university which produces preliminary plans for a high quality programme should have the support of ACAP about the suitability of the particular proposal before extensive expenditures or other commitments are made. Such support should not hinge on the existence of specialized facilities and resources at this early stage. It should be founded rather on the proposal itself in terms of:

1. its objectives with respect to local, provincial and wider needs,

2. the place of the programme in the provincial system, and

3. its role in the overall development of the institution and the extent to which the necessary supportive resources are available in other departments or committed by the institution.

ACAP's role at this stage must be supportive and protective rather than inhibitive. Its responsibility should be primarily to ensure that new programme developments in limited fields are not proliferated by late-comers to the detriment of the system.

There is another role for ACAP related to the introduction of new programmes. Planning should not be entirely restricted to a consideration of proposals generated by the member universities. It should not happen often given the role of the university in society, but the occasion may arise when some other segment of society will perceive a need for which the development of a programme of graduate study (and/or research) would be an entirely suitable response. In such a circumstance it would seem reasonable for ACAP to initiate discussions with the universities to review the situation and to establish how the system might best react.

The kind of system planning envisioned here implies a much earlier role for ACAP in the area of new programmes and fields of study, and a stronger more integrated and more decisive role for ACAP and the Appraisals Committee in the area of quality assessment.

The Role and Significance of the Three-year Plans

Among their several purposes, the three-year plans have served to indicate when there is sufficient interest in a discipline to justify a planning assessment. However, they have also helped to restrict the sudden and unannounced introduction of new programmes in that funding was approved only for programmes that were listed in the universities' three-year plans. At any given time, a plan might contain some programmes in the final stages of approval, others at early stages of development and still others that are really only possibilities that might develop given the right circumstances.

An analysis of the 109 new programmes listed in the three-year plans of February, 1975 shows that by December, no action had been taken to seek appraisal for 69 in spite of the fact that 32 of the 69 were in unembargoed disciplines. Given the current economic climate and the thrust of Advisory Memorandum 75-V, it seems unlikely that the above situation will change drastically in the foreseeable future. In fact, it is anticipated that universities will hesitate to proceed with some of the programmes which have obtained favourable appraisal.

Clearly, the format used for three-year plans prior to the advent of Advisory Memorandum 75-IV was misleading and the results were open to interpretations quite remote from reality. The experience with these should clearly warn the universities, if still further warning is necessary, of the dangers involved in over-specified systems of central planning, which may blur the distinction between possible interests and aspirations on the one hand and precisely planned developments on the other. A more suitable approach to this part of the planning process would offer a realistic picture of the current situation and of future developments both for the individual universities and for the system as a whole. A revision is obviously needed and it is strongly suggested that OCGS be asked to develop a new approach in which for each programme proposed, the university would indicate the level of priority, the extent to which resources have already been set in place, additional commitments approved but not in place and the intended year of implementation. This suggestion should be seen in the light of the more general review to be proposed shortly.

The three-year plan is a component of the planning system and its shape must reflect the role it plays in the process. The whole operation is under review by OCUA, and the Minister's letters of July 22, 1975 and December 12, 1975 have already changed the rules drastically with respect to the meaning of an embargo and the mechanism of funding. This would seem to be a very propitous moment for COU to develop and take a strong and united stand in support of a new approach to graduate planning. Although the arguments and recommendations presented in this report were developed primarily in response to the fairly specific terms of reference given to the committee, more recent events and the nature of our deliberations have frequently led us afield and it is hoped that the final result may prove a useful starting point from which to undertake the task suggested above.

During the COU discussion it was indicated that detailed consideration should be given to alternative methods of funding and their impact on both individual universities and the system. Although there are a number of obvious approaches to the funding of graduate studies, each is related in a different way to the various possible planning mechanisms. The committee felt that it would not be a fruitful exercise to examine funding mechanisms without also getting into a detailed consideration of different planning processes. The ramifications of such a study are extensive and go far beyond the scope of this report.

Appendix A

Comparative Data on Graduate Education

Introduction

Even though the pursuit of graduate and professional degrees is a world-wide phenomenon, the utilization of data to compare the level of commitment by individual political jurisdictions to such degrees presents some unique problems. The greatest problem centres around the publication dates of studies and reports, since most European data were published before the late 1960's. It should be remembered, also, that nations have their own historical development patterns around higher educational opportunities for their citizens, and even though most nations have liberalized admission standards to allow lower-middle and lower economic class students to attend, most authoritative sources only recognize four nations as being committed to mass education, namely Canada, Japan, the U.S.A. and the U.S.S.R. Mass education is generally defined as a commitment to provide higher education opportunities for any citizen who is capable of meeting standards in educational settings without consideration for socio-economic status.

Of the countries available for comparison, only the United States shares the same kinds of cultural heritages with Canada, but the differences in the two systems of higher education still make comparisons difficult. The mix of private and public institutions and the role of the federal governments in the funding of higher education are illustrative of the marked differences between the Canadian and U.S. systems. However, since the U.S. comes the closest to Canada in terms of scope of and commitment to university education, it was decided to compare the graduate enrolment figures to gain some insights.

Canada and the U.S.

The most recent enrolment data available for the U.S. from the American Council on Education were for 1971-72, but some projections for future years were included. Similar statistics for Canada came from Statistics Canada. Table 1 reports the U.S. and Canadian enrolments for both undergraduates and graduates for 1971-72 and 1972-73. The 1972-73 figures are actual ones for Canada, while the U.S. figures are projected for that year. It should be noted that the U.S. figures include all four-year institutions, both public and private. For the years under investigation, the data reported in Table 1 show that graduate students in the U.S. represented 14.2% of total enrolments, while in Canada graduate students represented about 11% of enrolments in universities. The projections for both countries report increases in undergraduate enrolments with graduate

student enrolments remaining stable. These states of affairs lead to the conclusion that the differences between the percentage of graduate students in the two countries are likely to persist.

Ontario and Illinois

Ontario educates over 40% of the graduate students in Canada and is the economic centre of the country. No jurisdiction in the U.S. educates a comparable percentage of graduate students in that country. Comparisons to New York or California, on the basis of their economic role in the U.S. were deemed inappropriate since their populations were significantly larger than Ontario's and the higher education institutions were significantly more numerous.

In terms of population of the ten largest states only New Jersey and Florida have populations which approximate that of Ontario. It was decided, since New Jersey does not possess a highly developed public system of higher education and since the industrial composition of Florida is unique due to its climate, that comparisons with these jurisdictions were not appropriate. Of the remaining highly populated jurisdictions of Pennsylvania, Texas, Illinois, Ohio, and Michigan, only the State of Illinois possessed enough common denominators to deserve being used as a comparable jurisdiction. Besides having a single large metropolitan centre like Ontario (Chicago vs. Toronto), Illinois also has fourteen publicly supported "university-type" institutions as compared to Ontario's fifteen. Another point to remember is that only the University of Illinois was a fully developed public graduate degree granting institution prior to the rapid expansion of higher education in the 1960's. (The University of Chicago is a private institution.) This set of circumstances is similar to the history of the Ontario universities since only the University of Toronto held a similar position prior to the rapid expansion period in Canada.

Using the most recent data available from the Illinois State Board of Higher Education, Table 2 was compiled. The results of this comparison shows that the full-time equivalent graduate students represented 17.7% of the total full-time equivalent enrolments in Illinois in contrast with Ontario where graduate students only accounted for 9.9% of university enrolments. It should be noted that using the different reporting format of Statistics Canada, graduate students in Ontario usually account for slightly over 12% of total university enrolments. The actual figures for 1974-75 are presently not available from Statistics Canada.

Table 1

University-Level Student Enrolment Figures
(reported in thousands of students)

	1971-72				1972-73			
	U.S.A.		Canada		U.S.A.*		Canada	
	#	%	#	%	#	%	#	%
Undergraduate	5,483	85.8	323	88.7	5,520	85.8	322	88.5
Graduate	908	14.2	41	11.3	915	14.2	42	11.5
Total Enrolment	6,391	100.0	364	100.0	6,435	100.0	364	100.0

* projected Enrolments

Sources: (1) A.C.E., A Fact Book on Higher Education, 1973
(2) Statistics Canada, Education in Canada, 1973

Table 2

1974-75 Actual University-Level Student Enrolment Figures

	Illinois 1974-75		Ontario 1974-75	
	#	%	#	%
Undergraduate	129,400	82.3	150,409	91.1
Graduate	27,917	17.7	16,436	9.9
Total Enrolment	157,317	100.0	166,845	100.0

Sources: (1) Illinois State Board of Higher Education
(2) Ontario Ministry of Colleges and Universities

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It should also be noted that the Illinois figures do not include students enrolled in publicly supported community colleges or private universities since at least half of the students in the Illinois community colleges would be enrolled in universities if they were registered in Ontario. However, a majority of students enrolled in Grade 13 in Ontario would probably either be registered in universities, colleges, or community colleges in Illinois.

Therefore, in order to present a more accurate picture of the degree of commitment to publicly supported graduate education, Table 3 was compiled. This table attempts to make the figures as comparable as possible, since the enrolments for students in all public post-secondary programmes were included for both jurisdictions.

These results show that graduate enrolments represent 5.2% of the total public post-secondary enrolments in Ontario and 9.9% in Illinois.

Due to the differences in population between Ontario and Illinois it was decided to investigate the public enrolment figures from a per capita perspective. The results of these comparisons are reported in Table 4. For Ontario the public graduate student enrolments represent 2.2 students per 1,000 residents; for Illinois the ratio is 2.5 graduate students per 1,000. The ratios for post-secondary enrolments per 1,000 residents is 42.5 for Ontario and 25.3 for Illinois. These results indicate that even though Ontario's commitment to post-secondary education is much greater than Illinois' that the cause for this is not as a result of graduate enrolments.

Conclusion

All of the results of this study point to the fact that there is no evidence that the universities in Ontario are educating a disproportionate share of graduate students as compared to Illinois, or the U.S. in general.

Anthony J. Giannelli
January 22, 1976

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Table 3

FTE Students Enrolled in Post-Secondary Institutions in 1974-75

	Ontario		Illinois	
	#	%	#	%
Public Universities:				
Undergraduates	150,409	47.2	129,400	45.6
Graduates	16,436	5.2	27,917	9.9
Community Colleges			125,879	44.5
CAAT's	100,523	31.6		
Grade 13	51,074	16.0		
Total	318,442	100.0	283,196	100.0

Sources: 1) Ontario Ministry of Colleges and Universities
2) Ontario Ministry of Education
3) Illinois State Board of Higher Education

Table 4

Enrolments as a Ratio of Per 1,000 Capita for 1974-75

	Ontario	Illinois
Graduate Students per 1,000 population	2.2	2.5
Post-Secondary Enrolments per 1,000 population	42.5	25.3

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FIGURE I

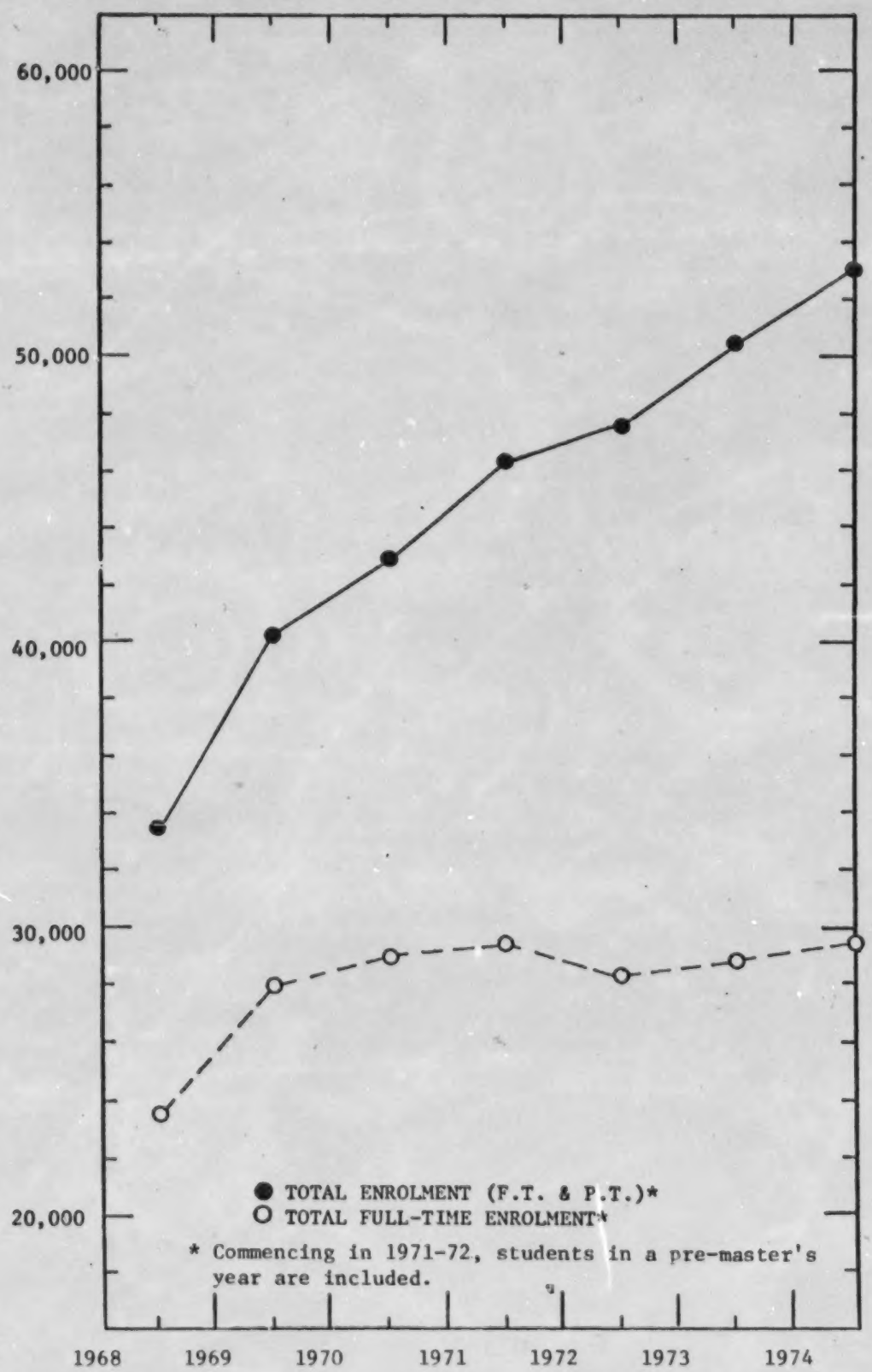
60,000
50,000
40,000
30,000
20,000
1968
1969
1970
1971
1972
1973
1974
● TOTAL ENROLMENT (F.T. & P.T.)*
○ TOTAL FULL-TIME ENROLMENT*
* Commencing in 1971-72, students in a pre-master's year are included.

TABLE I

Graduate Enrolments in Ontario and Canada, 1971-72 to 1974-75

	Year	1971-72		1972-73		1973-74		1974-75	
	Category	FT	Total	FT	Total	FT	Total	FT	Total
Ontario	Doctoral	5,137	6,540	4,946	6,673	4,873	6,630	4,830	6,746
	Master's	7,832	13,311	7,384	13,558	7,770	14,596	8,592	15,797
	Pre-master's	553	817	565	974	524	978	470	1,030
	Total	13,522	20,668	12,895	21,205	13,167	22,204	13,892	23,573
Canada	Doctoral	9,962	13,268	9,503	13,331	9,245	13,121	8,650	13,061
	Master's	18,105	31,001	17,530	32,170	18,325	34,909	19,539	37,502
	Pre-master's	1,338	2,045	1,317	2,157	1,255	2,380	1,234	2,476
	Total	29,405	46,314	28,350	47,658	28,825	50,410	29,423	53,039

APPENDIX II

TABLES 1.1 TO 1.10 EXTRACTED FROM

CANADIAN ASSOCIATION OF GRADUATE SCHOOLS

EMPLOYMENT OF NEW PHD GRADUATES

1974-75

TABLE 1.1 CANADA

IMMEDIATE POST-GRADUATION EMPLOYMENT OF CANADIAN Ph.D.'s

ALL DIVISIONS

	Canada 1974-75		Canada 1973-74		Canada 1972-73		Canada 1971-72		Canada 1970-71		Ontario 1964-69
	No.	%	No.	%	No.	%	No.	%	No.	%	%
OCCUPATION											
UNIVERSITY TEACHING											
In Canada	453	28	399	23	458	26	360	25	380	29	32
Elsewhere	132	8	174	10	158	9	162	11	144	11	16
Unknown	2		3				29	2			
Total	587	36	576	33	616	35	551	38	524	40	48
COMMUNITY COLLEGE[2]											
In Canada	60	4	49	3	38	2	48	3			2
Elsewhere	17	1	24	1	18	1	4				
Unknown											
Total	77	5	73	4	56	3	52	4			2
INDUSTRY											
In Canada	137	9	151	8	138	8	94	7	73	6	7
Elsewhere	18	1	28	2	30	2	29	2	42	3	5
Unknown			1				2				
Total	155	10	180	10	168	10	125	9	115	9	13
RESEARCH FELLOWSHIP											
In Canada	223	14	279	16	311	18	259	18	225	17	7
Elsewhere	101	6	135	8	143	8	130	9	151	11	18
Unknown	1		2				5				
Total	325	20	416	24	454	26	394	27	376	28	25
PRIVATE RESEARCH INSTITUTE											
In Canada	102	6	79	5	72	4	35	3	11	1	1
Elsewhere	29	2	35	2	28	2	16	1	14	1	1
Unknown	2				1						
Total	133	8	114	7	101	6	52	4	25	2	2
GOVERNMENT											
In Canada	139	8	181	10	144	8	87	6	99	7	7
Elsewhere	29	2	31	2	28	2	21	2	22	1	2
Unknown							5				
Total	168	10	212	12	172	10	113	8	121	8	9
UNEMPLOYED											
In Canada	34	2	32	2	54	3	41	3	64	4	
Elsewhere	6		7		10	1	1		8	1	
Unknown	23	2	16	1			11	1			
Total	63	4	55	3	64	4	53	4	72	5	
OTHER[3]											
In Canada	85	5	111	6	66	4	91	6	63	5	
Elsewhere	16	1	19	1	27	2	13	1	18	1	1
Unknown	1		1		15	1	2				
Total	102	6	131	7	108	6	106	7	81	6	1
TOTAL	1610		1757		1739		1446		1314		
UNKNOWN											
In Canada	26		64				11				
Elsewhere	18		17				14				
Unknown	85		67		119		116		29		
Total	129		148		119		141		29		

1. Excluding Laval, 1970-71; Sherbrooke, 1971-72; Sherbrooke and Victoria, 1972-73; Sherbrooke, 1973-74; Calgary, Quebec, Sherbrooke, Simon Fraser, 1974-75.
2. This category was not broken out from "Other" in 1970-71.
3. Includes High School teaching for 1972-73 and later years.

TABLE 1.2 CANADA

IMMEDIATE POST-GRADUATION EMPLOYMENT OF CANADIAN Ph.D.'s

HUMANITIES (DIVISION A)

	Canada 1974-75		Canada 1973-74		Canada 1972-73		Canada 1971-72		Canada 1970-71		Ontario 1964-69
	No.	%	No.	%	No.	%	No.	%	No.	%	%
OCCUPATION											
UNIVERSITY TEACHING											
In Canada	144	56	120	47	119	52	101	56	109	67	69
Elsewhere	37	14	46	17	39	17	34	19	25	15	25
Unknown			2	1			12	7			
Total	181	70	168	65	158	69	147	82	134	83	94
COMMUNITY COLLEGE[2]											
In Canada	18	7	14	5	12	5	9	5			
Elsewhere	5	2	5	2	6	3					2
Unknown											
Total	23	9	19	7	18	8	9	5			2
INDUSTRY											
In Canada	1		2	1							
Elsewhere	1										1
Unknown											
Total	2	1	2	1							1
RESEARCH FELLOWSHIP											
In Canada	8	3	4	2	3	1	1		4	2	
Elsewhere	1				2	1	1				1
Unknown							1				
Total	9	3	4	2	5	2	3	2	4	2	1
PRIVATE RESEARCH INSTITUTE											
In Canada	11	4	3	1	4	2	2	1	2	1	
Elsewhere	1		2	1	2	1			1	1	1
Unknown	1										
Total	13	5	5	2	6	3	2	1	3	2	1
GOVERNMENT											
In Canada	7	3	14	5	11	5	2	1	3	2	
Elsewhere											
Unknown							1	1			1
Total	7	3	14	5	11	5	3	2	3	2	1
UNEMPLOYED											
In Canada	5	2	11	4	18	8	5	3	9	6	
Elsewhere			2	1	1		1		1	1	1
Unknown	3	1	4	2			1				
Total	8	3	17	7	19	8	7	4	10	7	1
OTHER[3]											
In Canada	14	5	26	10	5	2	7	4	8	5	
Elsewhere	2	1	3	1	5	2					1
Unknown	1				3	1	1				
Total	17	6	29	11	13	5	8	4	8	5	1
TOTAL	260		258		230		179		162		
UNKNOWN											
In Canada	8		13				1				
Elsewhere	2		1				1				
Unknown	26		7		9		19		5		
Total	36		21		9		21		5		

TABLE 1.3 CANADA

IMMEDIATE POST-GRADUATION EMPLOYMENT OF CANADIAN Ph.D.'s

SOCIAL SCIENCES (DIVISION B)

	Canada 1974-75		Canada 1973-74		Canada 1972-73		Canada 1971-72		Canada 1970-71		Ontario 1964-69
	No.	%	No.	%	No.	%	No.	%	No.	%	%
OCCUPATION											
UNIVERSITY TEACHING											
In Canada	161	40	152	40	170	49	119	45	106	54	54
Elsewhere	34	9	36	10	30	8	38	15	30	15	16
Unknown	1		1				2	1			
Total	196	49	189	50	200	57	159	61	136	69	70
COMMUNITY COLLEGE[2]											
In Canada	16	4	14	4	9	3	16	6			
Elsewhere	6	2	11	3	7	2	1				4
Unknown											
Total	22	6	25	7	16	5	17	6			4
INDUSTRY											
In Canada	10	3	14	3	15	4	3	1	2	1	5
Elsewhere	2				1		1		1	1	3
Unknown											
Total	12	3	14	3	16	5	4	1	3	2	8
RESEARCH FELLOWSHIP											
In Canada	10	3	9	2	8	2	6	2	9	4	1
Elsewhere	5	1	7	2	4	1	5	2	5	2	2
Unknown											
Total	15	4	16	4	12	3	11	4	14	6	4
PRIVATE RESEARCH INSTITUTE											
In Canada	15	4	18	5	9	3	8	3	3	2	1
Elsewhere	5	1	6	1	1		2	1	2	1	
Unknown											
Total	20	5	24	6	10	3	10	4	5	3	1
GOVERNMENT											
In Canada	52	13	44	12	48	14	16	6	16	8	
Elsewhere	9	2	9	2	4	1	2	1	1	1	11
Unknown							1				
Total	61	15	53	14	52	15	29	7	17	9	11
UNEMPLOYED											
In Canada	13	3	6	1	8	2	5	2	4	2	
Elsewhere	4	1	2	1	3	1					
Unknown	16	4	2	1			2	1			
Total	33	8	10	3	11	3	7	3	4	2	
OTHER[3]											
In Canada	39	10	43	11	25	7	33	13	15	8	
Elsewhere	2		6	2	6	2	1		3	2	2
Unknown					2		1				
Total	41	10	49	13	33	9	35	13	18	10	2
TOTAL	400		380		350		262		197		
UNKNOWN											
In Canada	9		17				1				
Elsewhere	8		1				1				
Unknown	8		9		7		32		8		
Total	25		27		7		34		8		

TABLE 1.4 CANADA

IMMEDIATE POST-GRADUATION EMPLOYMENT OF CANADIAN Ph.D.'s

PHYSICAL AND APPLIED SCIENCES (DIVISION C)

	Canada 1974-75		Canada 1973-74		Canada 1972-73		Canada 1971-72		Canada 1970-71		Ontario 1964-69
	No.	%	No.	%	No.	%	No.	%	No.	%	%
OCCUPATION											
UNIVERSITY TEACHING											21
In Canada	98	16	79	11	103	14	97	14	108	16	
Elsewhere	45	7	66	9	52	7	57	9	67	10	14
Unknown	1						9	1			
Total	144	23	145	20	155	21	163	24	175	27	37
COMMUNITY COLLEGE[2]											
In Canada	21	3	13	2	17	2	18	3			
Elsewhere	3		5	1			2				1
Unknown											
Total	24	4	18	3	17	2	20	3			1
INDUSTRY											
In Canada	108	17	114	16	114	15	80	12	58	9	12
Elsewhere	11	2	25	4	23	3	26	4	39	6	8
Unknown			1				2				
Total	119	19	140	20	137	18	108	16	97	15	20
RESEARCH FELLOWSHIP											
In Canada	137	22	172	24	201	27	179	27	149	23	8
Elsewhere	35	6	70	10	76	10	67	10	83	13	23
Unknown	1		2				3				
Total	173	28	244	34	277	37	249	37	232	35	32
PRIVATE RESEARCH INSTITUTE											
In Canada	47	8	34	5	34	5	17	3	3		
Elsewhere	15	2	13	2	9	1	3		5	1	
Unknown											
Total	62	10	47	7	43	6	20	3	8	1	1
GOVERNMENT											
In Canada	52	8	59	8	53	7	42	6	49	7	6
Elsewhere	13	2	7	1	9	1	9	1	14	2	3
Unknown							3				
Total	65	10	66	9	62	8	54	8	63	10	9
UNEMPLOYED											
In Canada	9	1	12	2	17	2	23	3	41	6	
Elsewhere	2		2		2				4	1	
Unknown	3		7	1			6	1			
Total	14	2	21	3	19	2	29	4	45	7	
OTHER[3]											
In Canada	9	1	18	2	17	2	22	3	28	4	
Elsewhere	10	2	5	1	10	1	4	1	11	2	1
Unknown			1		9	1					
Total	19	3	24	3	36	5	26	4	39	6	1
TOTAL	620		705		746		669		659		
UNKNOWN											
In Canada	3		23				9				
Elsewhere	4		10				8				
Unknown	33		21		33		33		13		
Total	40		54		33		50		13		

TABLE 1.5 CANADA

IMMEDIATE POST-GRADUATION EMPLOYMENT OF CANADIAN Ph.D.'s

LIFE SCIENCES (DIVISION D)

	Canada 1974-75		Canada 1973-74		Canada 1972-73		Canada 1971-72		Canada 1970-71		Ontario 1964-69
	No.	%	No.	%	No.	%	No.	%	No.	%	%
OCCUPATION											
UNIVERSITY TEACHING											
In Canada	50	15	48	12	66	16	43	13	57	19	18
Elsewhere	16	5	26	6	37	9	33	10	22	7	16
Unknown							6	2			
Total	66	20	74	18	103	25	82	24	79	27	34
COMMUNITY COLLEGE[2]											
In Canada	5	2	8	2	4	1	5	1			
Elsewhere	3	1	3	1	1		1				2
Unknown											
Total	8	3	11	3	5	1	6	2			2
INDUSTRY											
In Canada	18	5	21	5	9	2	11	3	13	4	2
Elsewhere	4	1	3	1	6	2	2	1	2	1	1
Unknown											
Total	22	6	24	6	15	4	13	4	15	5	3
RESEARCH FELLOWSHIP											
In Canada	68	21	94	23	99	24	73	22	63	21	11
Elsewhere	60	18	58	14	61	15	57	17	63	21	27
Unknown							1				
Total	128	39	152	37	160	39	131	39	126	43	38
PRIVATE RESEARCH INSTITUTE											
In Canada	29	9	24	6	25	6	9	3	3	1	3
Elsewhere	8	2	14	3	16	4	11	3	6	2	2
Unknown	1				1						
Total	38	11	38	9	42	10	20	6	9	3	5
GOVERNMENT											
In Canada	28	9	64	15	32	8	27	8	31	10	11
Elsewhere	7	2	15	4	15	3	10	3	7	2	2
Unknown											
Total	35	11	79	19	47	11	37	11	38	13	13
UNEMPLOYED											
In Canada	7	2	3	1	11	3	8	2	10	3	
Elsewhere			1		4	1			3	1	1
Unknown	1		3	1			2	1			
Total	8	2	7	2	15	4	10	3	13	4	1
OTHER[3]											
In Canada	23	7	24	6	19	5	29	9	12	4	
Elsewhere	2	1	5	1	6	1	8	2	4	1	
Unknown					1						3
Total	25	8	29	7	26	6	37	11	16	5	3
TOTAL	330		414		413		336		296		
UNKNOWN											
In Canada	6		11				4				
Elsewhere	4		5				32		3		
Unknown	18		30		11						
Total	28		46		11		36		3		

TABLE 1.6 ONTARIO

IMMEDIATE POST-GRADUATION EMPLOYMENT OF CANADIAN Ph.D.'s

ALL DIVISIONS

	Ontario 1974-75		Ontario 1973-74		Ontario 1972-73		Ontario 1971-72		Ontario 1970-71		Ontario 1964-69
	No.	%	No.	%	No.	%	No.	%	No.	%	%
OCCUPATION											
UNIVERSITY TEACHING											
In Canada	241	28	192	23	215	25	211	27	205	30	32
Elsewhere	77	9	97	11	87	10	88	11	85	12	16
Unknown											
Total	318	37	289	34	302	35	299	38	290	42	48
COMMUNITY COLLEGE[2]											
In Canada	22	3	16	2	18	2	19	2			2
Elsewhere	9	1	14	2	10	1	2				
Unknown											
Total	31	4	30	4	28	3	21	3			2
INDUSTRY											
In Canada	78	9	77	9	83	9	54	7	37	5	7
Elsewhere	6	1	11	1	16	2	18	2	25	4	5
Unknown			1								
Total	84	10	89	10	99	11	72	9	62	9	13
RESEARCH FELLOWSHIP											
In Canada	123	14	126	15	153	17	138	17	117	17	7
Elsewhere	44	5	66	8	68	8	80	10	73	10	18
Unknown	1										
Total	168	19	192	23	221	25	218	27	190	27	25
PRIVATE RESEARCH INSTITUTE											
In Canada	73	8	37	4	34	4	18	2	5	1	1
Elsewhere	23	3	15	2	16	2	7	1	9	1	1
Unknown	1										
Total	97	11	52	6	50	6	25	3	14	2	2
GOVERNMENT											
In Canada	72	8	69	8	64	7	37	5	49	7	7
Elsewhere	9	1	11	1	15	2	11	1	7	1	2
Unknown											
Total	81	9	80	10	79	9	48	6	56	8	9
UNEMPLOYED											
In Canada	23	3	20	2	23	3	33	4	35	5	
Elsewhere	4		4	1	3				4	1	
Unknown	8	1	14	2			3				
Total	35	4	38	5	26	3	36	5	39	6	
OTHER[3]											
In Canada	37	4	59	7	41	5	67	8	38	5	
Elsewhere	7	1	12	1	14	1	6	1	9	1	1
Unknown	1				8	1	1				
Total	45	5	71	8	63	7	74	9	47	7	1
TOTAL	859		841		868		793		698		
UNKNOWN											
In Canada	7		40				10				
Elsewhere	8		9				6				
Unknown	36		2		32				10		
Total	51		51		32		16		10		

TABLE 1.7 ONTARIO

IMMEDIATE POST-GRADUATION EMPLOYMENT OF CANADIAN Ph.D.'s

HUMANITIES (DIVISION A)

	Ontario 1974-75		Ontario 1973-74		Ontario 1972-73		Ontario 1971-72		Ontario 1970-71		Ontario 1964-69
	No.	%	No.	%	No.	%	No.	%	No.	%	%
OCCUPATION											
UNIVERSITY TEACHING											
In Canada	91	57	76	48	78	57	76	62	75	67	69
Elsewhere	22	14	27	17	27	20	27	22	19	17	25
Unknown											
Total	113	71	103	65	105	77	103	84	94	84	94
COMMUNITY COLLEGE[2]											
In Canada	7	4	6	4	7	5	4	3			
Elsewhere	2	1	5	3	5	4					2
Unknown											
Total	9	5	11	7	12	9	4	3			2
INDUSTRY											
In Canada	1	1	1	1							
Elsewhere											1
Unknown											
Total	1	1	1	1							1
RESEARCH FELLOWSHIP											
In Canada	4	3	1	1			1	1	2	2	
Elsewhere	1						1	1			1
Unknown											
Total	5	3	1	1			2	2	2	2	1
PRIVATE RESEARCH INSTITUTE											
In Canada	10	6	3	2	2	1	1	1	1	1	
Elsewhere			1	1	1	1					1
Unknown	1	1									
Total	11	7	4	3	3	2	1	1	1	1	1
GOVERNMENT											
In Canada	4	2	7	4	4	3	2	2	2	2	1
Elsewhere											
Unknown	4	2	7	4	4	3	2	2	2	2	1
Total											
UNEMPLOYED											
In Canada	4	2	8	5	5	4	4	3	5	4	
Elsewhere					1	1					1
Unknown	2	1	4	3							
Total	6	4	12	8	6	5	4	3	5	4	1
OTHER[3]											
In Canada	8	5	15	9	2	1	6	5	8	7	
Elsewhere	2	1	3	2	2	1					1
Unknown	1	1			2	1	1	1			
Total	11	7	18	11	6	4	7	6	8	7	1
TOTAL	160		157		136		123		112		
UNKNOWN											
In Canada	3	10									
Elsewhere	1										
Unknown	14	1			5				2		
Total	18	11			5				2		

TABLE 1.8 ONTARIO

IMMEDIATE POST-GRADUATION EMPLOYMENT OF CANADIAN Ph.D.'s

SOCIAL SCIENCES (DIVISION B)

	Ontario 1974-75		Ontario 1973-74		Ontario 1972-73		Ontario 1971-72		Ontario 1970-71		Ontario 1964-69
	No.	%	No.	%	No.	%	No.	%	No.	%	%
OCCUPATION											
UNIVERSITY TEACHING											
In Canada	80	39	58	35	75	43	58	43	53	43	54
Elsewhere	18	9	20	12	16	9	20	15	23	19	16
Unknown											
Total	98	48	78	47	91	52	78	57	76	62	70
COMMUNITY COLLEGE[2]											
In Canada	5	2	4	2	6	3	7	5			
Elsewhere	4	2	6	4	3	2					4
Unknown											
Total	9	4	10	6	9	5	7	5			4
INDUSTRY											
In Canada	4	2	6	4	22	13			2	2	5
Elsewhere							1	1			3
Unknown											
Total	4	2	6	4	22	13	1	1	2	2	8
RESEARCH FELLOWSHIP											
In Canada	9	4	4	2	6	3	4	3	7	6	1
Elsewhere	3	2	1	1	1	1	5	4	5	4	2
Unknown											
Total	12	6	5	3	7	4	9	7	12	10	4
PRIVATE RESEARCH INSTITUTE											
In Canada	13	6	8	5	6	3	4	3	1	1	1
Elsewhere	5	2	2	1			2	1	1	1	
Unknown											
Total	18	8	10	6	6	3	6	4	2	2	1
GOVERNMENT											
In Canada	27	13	18	11	11	6	7	5	14	11	11
Elsewhere	3	1	3	2	2	1			1	1	
Unknown											
Total	30	14	21	13	13	7	7	5	15	12	11
UNEMPLOYED											
In Canada	10	5	2	1	4	2	4	3	2	2	
Elsewhere	2	1	2	1	1	1					
Unknown	2	1	2	1			1	1			
Total	14	7	6	4	5	3	5	4	2	2	
OTHER[3]											
In Canada	20	10	25	15	15	9	23	17	12	10	
Elsewhere	1		4	2	3	2			2	1	2
Unknown					2	1					
Total	21	10	29	17	20	12	23	17	14	11	2
TOTAL	206		165		173		136		124		
UNKNOWN											
In Canada	3		14				1				
Elsewhere	5		1								
Unknown	6		1		4				4		
Total	14		16		4		1		4		

TABLE 1.9 ONTARIO

IMMEDIATE POST-GRADUATION EMPLOYMENT OF CANADIAN Ph.D.'s

PHYSICAL AND APPLIED SCIENCES (DIVISION C)

	Ontario 1974-75		Ontario 1973-74		Ontario 1972-73		Ontario 1971-72		Ontario 1970-71		Ontario 1964-69
	No.	%	No.	%	No.	%	No.	%	No.	%	%
OCCUPATION											
UNIVERSITY TEACHING											
In Canada	52	15	39	11	46	11	59	16	54	16	23
Elsewhere	29	8	35	10	30	7	24	6	36	11	14
Unknown											
Total	81	23	74	21	76	19	83	22	90	27	37
COMMUNITY COLLEGE[2]											
In Canada	9	3	3	1	5	1	8	2			
Elsewhere	2		2		2	1	1				1
Unknown											
Total	11	3	5	1	7	2	9	2			1
INDUSTRY											
In Canada	66	19	61	17	60	15	51	14	32	10	12
Elsewhere	5	1	11	4	15	3	17	5	23	7	8
Unknown			1								
Total	71	20	73	21	75	18	68	18	55	16	20
RESEARCH FELLOWSHIP											
In Canada	82	23	84	24	112	28	95	26	83	25	8
Elsewhere	16	5	38	11	38	9	42	11	35	10	23
Unknown	1										
Total	99	28	122	35	150	37	137	37	118	35	32
PRIVATE RESEARCH INSTITUTE											
In Canada	31	9	16	5	17	4	8	2	1		
Elsewhere	12	3	5	1	6	2	1		4	1	
Unknown											
Total	43	12	21	6	23	6	9	2	5	1	1
GOVERNMENT											
In Canada	28	8	25	7	31	7	18	5	21	6	6
Elsewhere	4	1	3	1	8	2	7	2	3	1	3
Unknown											
Total	32	9	28	8	39	9	25	7	24	7	9
UNEMPLOYED											
In Canada	7	2	9	3	12	3	19	5	23	7	
Elsewhere	2		1		1				3	1	
Unknown	3	1	7	2			2	1			
Total	12	3	17	5	13	3	21	6	26	8	
OTHER[3]											
In Canada	3	1	7	2	15	4	14	4	12	4	
Elsewhere	3	1	2	1	6	1	3	1	5	1	1
Unknown					4	1					
Total	6	2	9	3	25	6	17	5	17	5	1
TOTAL	355		349		408		369		335		
UNKNOWN											
In Canada	1		13				9				
Elsewhere	2		6				3				
Unknown	10				21				4		
Total	13		19		21		12		4		

TABLE 1.10 ONTARIO

IMMEDIATE POST-GRADUATION EMPLOYMENT OF CANADIAN Ph.D.'s

LIFE SCIENCES (DIVISION D)

	Ontario 1974-75		Ontario 1973-74		Ontario 1972-73		Ontario 1971-72		Ontario 1970-71		Ontario 1964-69
	No.	%	No.	%	No.	%	No.	%	No.	%	%
OCCUPATION											
UNIVERSITY TEACHING											
In Canada	18	13	19	11	16	11	18	11	23	18	18
Elsewhere	8	6	15	9	14	9	17	10	7	5	16
Unknown											
Total	26	19	34	20	30	20	35	21	30	23	34
COMMUNITY COLLEGE[2]											
In Canada	1	1	3	2							
Elsewhere	1		1				1	1			2
Unknown											
Total	2	1	4	2			1	1			2
INDUSTRY											
In Canada	7	5	9	5	1		3	2	3	2	2
Elsewhere	1	1			1				2	2	1
Unknown											
Total	8	6	9	5	2	1	3	2	5	4	3
RESEARCH FELLOWSHIP											
In Canada	28	20	37	22	35	23	38	23	25	20	11
Elsewhere	24	18	27	16	29	19	32	19	33	26	27
Unknown											
Total	52	38	64	38	64	42	70	42	58	45	38
PRIVATE RESEARCH INSTITUTE											
In Canada	19	14	10	6	9	6	5	3	2	2	3
Elsewhere	6	4	7	4	9	6	4	2	4	3	2
Unknown											
Total	25	18	17	10	18	12	9	5	6	5	5
GOVERNMENT											
In Canada	13	9	19	11	18	12	10	6	12	9	11
Elsewhere	2	1	5	3	5	3	4	2	3	2	2
Unknown											
Total	15	10	24	14	23	15	14	8	15	12	13
UNEMPLOYED											
In Canada	2	1	1	1	2		6	4	5	4	
Elsewhere			1						1	1	1
Unknown	1	1	1	1							
Total	3	2	3	2	2	1	6	4	6	5	1
OTHER[3]											
In Canada	6	4	12	7	9	6	24	14	6	5	
Elsewhere	1	1	3	2	3	2	3	2	2	2	
Unknown											3
Total	7	5	15	9	12	8	27	16	8	6	3
TOTAL	138		170		151		165		128		
UNKNOWN											
In Canada			3				2				
Elsewhere			1								
Unknown	6		1		2						
Total	6		5		2		2				

APPENDIX III

UNIVERSITY _____

THREE YEAR PLAN

1976-77 to 1979-80

SUMMARY

A. NEW PROGRAMMES AND NEW FIELDS IN EXISTING PROGRAMMES

Name of Programme or Field and Degree Title	Proposed Date of Commencement	Steady State Enrolment Projection * FT	PT

B. MAJOR PLANNED CHANGES IN EXISTING PROGRAMMES

a. Programmes proposed for phasing out:

b. Programmes proposed for a decrease in enrolment and/or a reduction in the number of fields covered:

c. Programmes proposed for expansion with respect to enrolment:

*For new fields show only the numbers for the new field.

April 28, 1976

PROPOSED NEW PROGRAMME OR NEW FIELD

(One statement to be completed for each new development.)

NAME OF PROGRAMME OR FIELD AND DEGREE TITLE:

PROPOSED DATE OF COMMENCEMENT:

The following three conditions have been satisfied:

a) a full appraisal-type document on the programme has been produced,

b) this document is under formal consideration or has been approved by the relevant committee of the Graduate Faculty or Graduate School of the University,

c) the financial implications have been considered by the university administration and where necessary, appropriate commitments have been made.

Note: Additional resources required by the Appraisals Committee will be considered at the appropriate time.

Signed _____ _____

Dean of Graduate Studies Date

a) Five-Year Projections (Enrolment Data)*

Year	New Intake	Total Enrolment FT	Total Enrolment PT
1			
2			
3			
4			
5			
Steady State			

b) Brief description of the programme or field including any unique or innovative features (to be attached).

c) Relationship to COU plan (if any exists) or to similar programmes at other universities.

d) Relationship to existing programmes (including undergraduate) of the university.

*For new fields show only the numbers for the new field.

MAJOR PLANNED CHANGES IN EXISTING PROGRAMMES

List planned changes in existing programmes under the following headings. These planned changes should be reported only if the decision has been made by the appropriate faculty or university body. The listing should indicate the name of the programme, the degree title, current fields, proposed fields, enrolments for the last three years and projected enrolments for the next three years.

a) Programmes proposed for phasing out:

b) Programmes proposed for a decrease in enrolment and/or a reduction in the number of fields covered (indicate new steady-state enrolment for each):

c) Programmes proposed for expansion with respect to enrolment (indicate new steady-state enrolment for each):